THE

WESTERN JOURNAL

OF THE

MEDICAL AND PHYSICAL SCIENCES.

JANUARY, FEBRUARY AND MARCH, 1833.

Essays and Cases.

ART. I.—*Observations on the Laws of Sympathetic Action in the Animal Œconomy.* By JAMES C. FINLEY, M. D.

There has been a great deal of discussion, and much that we consider very unprofitable, among physicians, whether medicines operate by a sympathetic influence, or whether, being absorbed, they exert a direct influence upon the different parts of the body by being brought in contact with them through the course of the circulation.

It is not our intention to advocate, exclusively, either of these opinions. Foreign substances are undoubtedly taken into the circulation unchanged, and that, in this condition, they should exert their characteristic influence by a direct action upon the highly sensible surface of the vascular system, is no very improbable supposition, even if this opinion were not supported by the strongest circumstances, and upon the highest authority; but that their influence in this way is as general as the great body of the humoral pathologists suppose, we do not for a moment believe. But that they do not at all operate in this way however,

is an observation that we should be far from hazarding, even in the absence of every thing like experiment upon the subject. The experiments of Majendie, if they could be implicitly relied upon, would settle the question that some poisons, the most virulent in their nature, and which, on account of the rapid development of their deleterious influence, would appear the most likely to act through the medium of the nervous system, produce their effect by absorption into the venous circulation. But, notwithstanding the high celebrity of Majendie, as an experimenter upon living animals, the great derangement of the animal functions which the subjects of his experiments must have experienced from the cruelty and severity of his operations, will render the inferences which he has drawn from them, the object to a very great proportion of the medical world.

Into this question we have no design to enter, but simply to enumerate some of the laws by which the different parts of the system exert a sympathetic influence that is productive of disease, or capable of being converted to salutary remedial agency. That such a connexion exists, is incontrovertible, from the instantaneous manner in which some medicines diffuse their influence over the system, as well as from the sympathy of the whole system with the *state* or *condition* of a particular organ, and in which consequently the nervous system, or the vascular system, *independent of the transmission of morbid agents*, must be the only medium of communication.

The precise limits of these two modes of influence can never be satisfactorily decided, not even with an approach to certainty. Probability and conjecture, in the great majority of cases, is the most that we can ever arrive at.

The different modes of sympathetic influence may be classed in the following manner: 1. The sympathy which connects the different parts of the body, and by virtue of which, the state or condition of any one member is transmitted throughout the whole system of organs, of which the body is composed. 2. The sympathy of Function. 3. The sympathy of structure.

We have a striking exemplification of this general bond of union which unites the different organs of the body in the phe-

nomena which accompany either general or local inflammation. Inflammatory action induced in any organ of the body causes the system at large to sympathise in this same mode of action, to an extent, proportionate to the violence of the inflammation and to the importance or to the size of the organ; and, on the contrary, a state of general inflammatory action predisposes every part of the system, upon the occurrence of any local or accidental irritation, to take on a state of inflammation. Hence after severe injuries, we have not only a general phlogistic diathesis, but a liability to inflammation of the brain, concussion of the brain, or operations upon distant and delicate parts of the system, produce abscess of the liver, &c. Upon the same principle, we often witness in habits that are broken up by intemperance, a diseased action of the liver accompanied by an eruption upon the surface of the body, denoting, indeed, a morbid condition of the skin, but indicating at the same time, on the part of nature, an attempt to counteract the debility into which the viscera, connected with digestion, are running, by establishing a degree of inflammatory action in which the system sympathises. When, from general debility, or from the accidental application of any debilitating agent, the eruption recedes from the surface, depraved digestion, spasms of the stomach, with other indications of visceral derangement, and even sudden death, shew that the same want of action pervades the digestive organs. The same state of things is to be observed when the depression of the system in the stage of debility which precedes the eruption of the exanthemata, is such, either from general debility or from the application of cold, that the eruption does not take place, the serious local congestions indicate that this condition prevails in the whole system of internal organs as well as in the cutaneous structure.

The same identity of condition we find in the morbid effects produced by cold. When the application of cold is carried beyond the powers of reaction in the animal œconomy, we witness a paleness and constriction of the skin, and a deficient action of the capillary system on the surface of the body. Combined with these effects, and corresponding to them, we have a debilitated

action of the heart and a corresponding derangement of capillary circulation pervading the capillary structure of the lungs, of the alimentary canal, and of the muscular and fibrous systems. That this is the general condition of the capillary system under these circumstances, we infer, from the diminished faculty of generating animal heat, from the diminution of the exhalations and secretions, from the visceral congestions, muscular cramps, and pain in the bones and ligaments, which result immediately from the application of cold; all which are followed by the occurrence of internal inflammations analogous to those which take place in the external parts of the body from the depressing effects arising from the direct application of cold.

A state of the system analagous to this, we find in the cold stage of intermittent fevers, where we find the cutaneous circulation almost arrested, the stomach affected with nausea and vomiting, the action of the lungs impaired, the viscera congested, and the brain and the nervous system in a state of torpor and insensibility; all resulting as analogous effects from a similar and wide spread derangement of the different organs of the animal œconomy; a derangement that is marked by defective vascular action, diminished secretions, impaired action of the heart, and venous congestion, effects of a common cause, and all acting and reacting upon each other.

Mistaken views of pathology have not unfrequently led pathologists to reject this simple view of the actions of the animal œconomy. Thus we hear of the derangement of the balance of the circulation and of the blood, and, consequently, of the powers of vitality being driven from one part to accumulate in another. Others, we hear speak of the revulsive power of remedial agents, as if the excessive action of one organ could be relieved by diverting that action to another. Profuse discharges from the bowels are again said to be produced by turning the current of the circulating fluids inward upon the bowels, and to be relieved by diverting them to the surface.

We do not intend to denounce that practice, by the appropriation of which, these theories are supported. But the theory is false, and the practice, if regulated by it, would be pernicious

in the extreme. Views of this kind, therefore, as they serve only to give flippant routine practitioners a plausible hypothesis to satisfy the inquisitive public with a shew of knowledge, ought to be discountenanced by every intelligent practitioner.

Congestion and inflammation are as directly opposite in their character as are the stage of depression and reaction in intermittent fever; and this distinction when distinctly marked, pervades every tissue in the body. They may, however, exist together, because the latter is the remedy provided by nature against the injurious tendency of the former. When Dr. Rush defined the depressed state of the system which accompanies malignant fever as a state of suppressed excitement," or as a condition in which the system was so overpowered by excessive action that the usual systems of inflammation did not exhibit themselves, he advanced a doctrine which would be literally true, if the weakened pulse and the general prostration of the system depended, as in the case of inflammation of the stomach, upon the derangement of an organ whose healthy condition is essential to the vitality of the whole system. If, however, this was a condition in which full reaction was prevented by the serious nature of the congestions, and the great derangement of the capillary circulation, the theory was erroneous, and liable, in practice, to be perverted to a most pernicious influence.

This principle of general sympathy affords us an easy solution of the apparently diversified influence of local stimulants—blisters, rubefacients, &c. We see these applications, under different circumstances, successfully applied to remove inflammation, to relieve spasms of the muscles or viscera, to restore action to the surface, to obviate congestion, or to support the sinking powers of life. Do they effect these diversified indications by different principles of action adapted to the emergency, or by a uniform mode of action? By a uniform mode of action undoubtedly. Their first effect is to give tone to the capillary system, and through this, by an extension of their influence, to increase the action of the heart.

Rubefacients exert a decided influence upon the capillary system throughout the whole body, which, although less perma-

action of the heart and a corresponding derangement of capillary circulation pervading the capillary structure of the lungs, of the alimentary canal, and of the muscular and fibrous systems. That this is the general condition of the capillary system under these circumstances, we infer, from the diminished faculty of generating animal heat, from the diminution of the exhalations and secretions, from the visceral congestions, muscular cramps, and pain in the bones and ligaments, which result immediately from the application of cold; all which are followed by the occurrence of internal inflammations analogous to those which take place in the external parts of the body from the depressing effects arising from the direct application of cold.

A state of the system analagous to this, we find in the cold stage of intermittent fevers, where we find the cutaneous circulation almost arrested, the stomach affected with nausea and vomiting, the action of the lungs impaired, the viscera congested, and the brain and the nervous system in a state of torpor and insensibility; all resulting as analogous effects from a similar and wide spread derangement of the different organs of the animal œconomy; a derangement that is marked by defective vascular action, diminished secretions, impaired action of the heart, and venous congestion, effects of a common cause, and all acting and reacting upon each other.

Mistaken views of pathology have not unfrequently led pathologists to reject this simple view of the actions of the animal œconomy. Thus we hear of the derangement of the balance of the circulation and of the blood, and, consequently, of the powers of vitality being driven from one part to accumulate in another. Others, we hear speak of the revulsive power of remedial agents, as if the excessive action of one organ could be relieved by diverting that action to another. Profuse discharges from the bowels are again said to be produced by turning the current of the circulating fluids inward upon the bowels, and to be relieved by diverting them to the surface.

We do not intend to denounce that practice, by the appropriation of which, these theories are supported. But the theory is false, and the practice, if regulated by it, would be pernicious

in the extreme. Views of this kind, therefore, as they serve only to give flippant routine practitioners a plausible hypothesis to satisfy the inquisitive public with a shew of knowledge, ought to be discountenanced by every intelligent practitioner.

Congestion and inflammation are as directly opposite in their character as are the stage of depression and reaction in intermittent fever; and this distinction when distinctly marked, pervades every tissue in the body. They may, however, exist together, because the latter is the remedy provided by nature against the injurious tendency of the former. When Dr. Rush defined the depressed state of the system which accompanies malignant fever as a state of suppressed excitement," or as a condition in which the system was so overpowered by excessive action that the usual systems of inflammation did not exhibit themselves, he advanced a doctrine which would be literally true, if the weakened pulse and the general prostration of the system depended, as in the case of inflammation of the stomach, upon the derangement of an organ whose healthy condition is essential to the vitality of the whole system. If, however, this was a condition in which full reaction was prevented by the serious nature of the congestions, and the great derangement of the capillary circulation, the theory was erroneous, and liable, in practice, to be perverted to a most pernicious influence.

This principle of general sympathy affords us an easy solution of the apparently diversified influence of local stimulants—blisters, rubefacients, &c. We see these applications, under different circumstances, successfully applied to remove inflammation, to relieve spasms of the muscles or viscera, to restore action to the surface, to obviate congestion, or to support the sinking powers of life. Do they effect these diversified indications by different principles of action adapted to the emergency, or by a uniform mode of action? By a uniform mode of action undoubtedly. Their first effect is to give tone to the capillary system, and through this, by an extension of their influence, to increase the action of the heart.

Rubefacients exert a decided influence upon the capillary system throughout the whole body, which, although less perma-

nent than that produced by blisters, is more diffusive and hence better adapted to the cold stage of fevers and the temporary congestions which accompany them—indeed, to every form of capillary derangement which has not acquired a permanent character. They preserve much of this mode of action when taken into the stomach, and appear, when administered in this manner, to increase the action of the heart, rather by an indirect influence through the medium of the capillary circulation, than by directly increasing its action.

That both rubefacients and blisters do act in this manner upon the system, is evident from the fact, that they cannot be applied with advantage during the existence of a phlogistic diathesis. When, however, general action has been reduced, and inflammation is kept up by the inability of the weakened capillaries to throw off the load with which they are oppressed, or when inflammation, in its incipient stage, consists rather in an engorgement of the capillary vessels which has not, as yet, induced a similar condition of the blood vessels generally, then only, it is that local irritants relieve internal inflammation. This they do, not by a revulsive, but a directly stimulating property—not by inviting the fluids to a different tissue, but by imparting to the capillaries sufficient tone to enable them to restore their circulation.

The same principle of reasoning will apply to diseases of the bowels. In inflammations of their serous texture, all the powers of life are depressed—not because the powers of vitality are concentrated in the organs which are the seat of inflammation, but because the destruction of their functions prostrates the whole system. In dysentery or diarrhœa there is no other evidence of a change in the distribution of the fluids than the profuse discharges which are the common effect of a certain grade of inflammation in the mucous and serous membranes.

We have another exemplification of this general sympathy in the action of various medicines. Many of the humoral pathologists have labored very strenuously to prove that all these medicines operate only when taken into the circulating system. This opinion, however, cannot be for a moment entertained, and

consequently the controversy must be respecting the lines of demarcation between those which operate upon the nervous system and those which produce their influence through the medium of the general circulation. Prussic acid, for instance, when applied to the extreme verge of vitality, may produce immediate death. Tobacco, when taken into the mouth, instantly produces universal muscular relaxation. Peruvian bark excites the action of the heart and arteries before it can possibly undergo the process of digestion.

In addition to these incontrovertible facts, the identity of operation which different medicines exhibit when applied to the different parts of the system, affords a strong proof that many medicines which are probably taken into the blood, do, nevertheless, produce their influence by a sympathetic influence. Tartar emetic, for instance, when received into the stomach, doubtless operates in virtue of the sympathy between the mucous and muscular coats of the stomach. When applied to the skin, however, or injected into the veins, it produces the same effect upon the muscular fibres. It cannot here be supposed that this result is produced by its reaching the stomach in the course of the circulation, for the act of vomiting is produced in conformity with a principle which we shall illustrate presently, by the irritation of the mucous membrane. The object of vomiting is to expel these substances from the stomach before they have an opportunity of being taken into the circulation, or of injuring the system in any other way, and besides, the peculiar relaxing influence produced by the mere contact of emetics with the mucous surfaces proves that they produce their specific effect by an impression upon the mucous surface of the stomach. The fact, therefore, that they produce the same effect when applied to a distant part of the body, may be adduced as another instance of the general sympathy which unites the different parts of the animal œconomy.

Another exemplification of this general law we have in the debility and fatigue which pervades all the organs of the body when any individual organ has been exhausted by overaction. This general relaxation is more strikingly exhibited when the

debilitated organ is of great importance in the system; the stomach, for instance, the organs of generation, &c., although the influence is observable when any, even of the least important of the organs, are tasked beyond their power.

These are some of the most important instances of that law in virtue of which the whole system sympathises with each of its members, and takes on a general action analagous to that of the suffering organ. There are some apparent exceptions to this principle. To some of these we have already alluded. Another instance is to be found in the fact that the action of the skin and the kidneys is frequently in an inverse ratio. Of this fact the explanation is to be found in the circumstance that, as organs of excretion, the function of these is in several respects the same. If, therefore, the action of the one is increased or diminished, by a cause not sufficiently powerful to affect the system generally, the action of the other must be suspended or increased in a corresponding degree. A certain amount of the fluids in a healthy condition of the body are to be thrown off, and if they pass by one set of emunctories, they cannot of course by another. Of their general coincidence of action, however, we have abundant proof in a variety of diseases, as in fevers, dropsies, &c., in which both are partially suspended; and on the contrary, in the sweating stage and in the crisis of fevers, where both are increased. The same sympathy prevails between the liver and the skin, and, as a general principle, between all the tissues of the body.

The extent to which different organs sympathise with each other depends upon a variety of circumstances. The organs highly important, either on account of their being indispensable to vitality, or from their subservience to animal or social purposes, sympathise very readily with each other. The sympathy between the stomach and the brain is very intimate. The brain also sympathises very intimately with certain affections of the lungs, although the lungs generally do not exert that influence over the rest of the system which their importance would lead us to anticipate. The sympathies of the organs of generation are perhaps more decidedly marked than those of any other

organ, for, besides the powerful influence they exert upon the health when the seat of disease, or wasted by debauchery; they, by an imperceptible influence mould the conformation of the body, and impress upon the mind the characteristics by which the sexes are distinguished.

Contiguity of position, also, has a very powerful influence in modifying sympathies; and this, even when there is no immediate connection by nerves or blood vessels—as, for instance, is the case between the thoracic and abdominal viscera and the inte. guments of those parts. The manner in which this intercourse between the different parts of the body is preserved, it is not easy to point out. It is generally attributed to the nervous system, and, perhaps in the majority of cases, with propriety. There are, however, doubtless, numerous other cases in which very powerful and decided sympathetic effects are communicated through the medium of the other great systems of the body, especially through the medium of the circulating system, by means of continuous sympathy, or by what may be called sympathy of function. The nervous system is doubtless essential to this extension of action, as it is to all the actions of vitality. It is, however, necessary only as essential to vital action of every kind.

Sympathy of Function. One of the most important and powerful of the bonds of union between the different parts of the body is derived from the close sympathy which exists between parts that are engaged in the same function; and between the instinctive passions and appetites, and the wants and sufferings of the organs to which they are subservient.

The close sympathy which subsists between the different parts of the circulating system we have already alluded to in speaking of general sympathy. There is, however a different kind of sympathy depending upon the relation in which they stand towards each other.

The blood vessels are supplied with their circulating fluids through the medium of the absorbents; and hence, as a general principle, the action of these two systems are in an inverse ratio. Withdraw a large portion of the blood by venesection, or per-

mit an unusual quantity to flow off by any of the emunctories, and the absorbent vessels seize with avidity upon every thing that comes within their reach. Deprive an animal for any length of time of food, and thereby preclude the supply by which the blood is renovated, and the absorbents from the different parts of the body, which, under ordinary circumstances, convey but a small quantity of colourless lymph, are seen to be abundantly loaded with a high colored fluid, evincing that they are striving, by an extraordinary exertion, to supply the demands of the blood vessels.

The same sympathy we observe between the appetites and the functions to which they are subservient. We have a curious instance of this in the sympathy between the sensations of thirst, for instance, and the exhaustion of the fluids. A more remarkable and inexplicable fact could scarcely be selected as illustrative of the sympathy of function, there being not a single physiological fact to shew why the mucous surfaces of the throat and fauces should be associated with the deficiency of fluids in the vascular system, except the tendency which this location of the sense of thirst has to lead to the instinctive desire for liquids to supply the deficiency. A similar remark may be made with respect to the sensation of hunger—all the explanations which have been offered in explanation of this appetite being not only inadequate, but in the highest degree irrational.

A similar sympathy we observe between the breasts of the female and the organs of generation. These organs arrive at maturity about the same time; at a proper period during gestation, a new action takes place in the mammæ to prepare them for providing the nourishment of the offspring; and when gestation is suspended, either by parturition or the death of the fœtus, the secretion of milk soon follows. This sympathy is as marked in the diseases to which these organs are subject—the mammæ, especially, exhibiting symptoms of disease whenever the uterus is the seat of structural or functional derangement. It has been very fashionable to account for this sympathy by means of a nervous or vascular connection; but, although we might possibly admit of this mode of explanation in relation to

these particular organs, in what manner could we make it apply to other sexual sympathies? How would we account, for instance, for the sudden growth and the rapid maturity of the physical organs and the intellectual faculties, which take place at the approach of puberty? a change which is undoubtedly owing to the influence of the sexual organs.

We have other exemplifications of this functional sympathy, in the manner in which every organ responds to the irritation of those parts of the system to which its action is subservient. Thus the introduction of food into the mouth provokes the action of the salivary glands; the passing of the food into the duodenum is followed by a flow of bile into that intestine; and certain medicines, when taken into the stomach, produce vomiting or catharsis—the muscular coat of these viscera being called into action by the irritation of their mucous surfaces. The correspondence between the irritation of the retina, by the rays of light, and the introduction of the iris, affords a beautiful example of this sympathetic action.

It may be laid down as a general principle, of which the recollection of every reader will afford him many illustrations, that there is a close connection between the action of a gland and the irritation of its excretory duct. The proper stimulus of every gland is in the irritation of its excretory duct, nor can a single instance be adduced in which its secretions are increased by a stimulus applied directly to its substance. In some cases the sensibilities of the gland appear to centre in the excretory duct. This is peculiarly the case in irritation of the mucous coat of the bladder, the pain of which is universally felt in the extremity of the penis.

Another instance of this sympathy we have in the increased action of the urinary organs after the introduction of saline medicines into the circulation. The kidneys are the outlet through which substances of this kind escape from the system; and by a sympathy between the blood vessels and the organ whose office it is to relieve them, an increased action takes place and the salts are carried off with a copious discharge of the watery parts of the blood. The general explanation is, that

this increased secretion is produced by the direct stimulus of these salts upon the secreting vessels. An explanation, however, which would refer the increased action of the kidneys to an impression upon those parts of the system to which they are subservient, would be more in accordance with other analogies in the animal œconomy.

It will be observed that the function of many of these ŏrgans is so indispensably connected with the system at large, that the *sympathy of function* forms a general bond of union between the different parts of the animal œconomy. This is the case with the alimentary canal, which, on account of its agency in the nourishment of the system, has a *functional sympathy* with the whole vascular system, both of waste and supply, as well as with each individual organ. Hence the number and extent of its sympathies and the great sensibility with which it is consequently endued, render it a most convenient and efficacious medium for affecting the rest of the system in the administration of medicine.

The sympathies of the vascular system are equally extensive, and, if it were as conveniently within our reach, would afford a means of affecting the system, in the use of our remedies, more powerful than the alimentary canal.

The functional sympathies of the nervous system are, of course as extensive as sensibility itself. This system must indeed be the connecting link by which the different parts of the body are bound together. In some cases, functional sympathy can evidently be traced to a peculiar distribution of nerves; as is the case with all those parts of the body to which the nerves of respiration are distributed. Probably, as we become acquainted with the *final cause* of other arrangements of the nervous system, we will discover a similar provision for the other sympathies of animal and organic life; but at present, the different speculations which have been advanced upon this subject, are supported by little more than fancy and conjecture.

The third kind of sympathy is that which demands upon *similarity of structure.* We observe this kind of sympathy in the tendency of similar structures throughout the body, to take

on a similar state of diseased action. Thus, when a rheumatic or gouty diathesis prevails in the system, we see the disease, at one time, simultaneously prevailing in different parts of the body; and at another, suddenly leaving one part and attacking another —thereby shewing that the predisposition prevails universally throughout the fibrous and ligamentary structure. This form of sympathy is most frequently observed in continuous structures. Thus we see some forms of disease pervade the whole surface of the alimentary canal; the mucous surfaces of the air passages, or of the urinary organs. Certain cutaneous diseases at once affect the surface of the body, and the internal surface of the lungs, while, in other cases, a similar sympathy seems to prevail between the surface of the body and the alimentary canal.

This species of sympathy seems to exist in a very striking degree between the different parts of the absorbent system—in virtue of which a very slight irritation at their extremities frequently produces serious inflammation of the glands. It has been very common to attribute this affection of the glands to the absorption of acrimonious matter. But the extension of the inflammation along the whole course of the absorbent until it arrives at the gland, renders it more probable that it is extended by continuous sympathy. The reason why the absorbents are more prone to be affected in this manner than the other parts of the vascular system is, probably, to be sought for in the fact, that in consequence of the double function which they perform, of *absorption* and of *assimilation*, it is necessary for them to be endued with a greater degree of sensibility, as well as with a closer sympathy between the different parts which compose this system. A similar sympathy, however, exists in the blood vessels, especially, in the venous system. A fatal inflammation, extending along the course of the veins, has frequently followed venesection; and is so liable to occur after the application of a ligature to the larger veins, as almost to preclude surgeons from performing an operation which once promised to prove of very extensive utility.

These are some of the bonds of union by which this complicated animal machine, consisting of an infinite variety of parts,

and constructed for as great a diversity of purposes, is combined into a harmonious system, and animated by a common personal identity, to share in the burdens and participate in the pleasures of each individual organ of which its structure is composed.

ART. II.—*Observations on Scarlet Fever, as it appeared in Steubenville, Ohio, during the winter of* 1831 *and* 1832. By A. JUDKINS, M. D.

During the fall and early part of the winter of '31 and '32, a few sporadic cases of scarlet fever occurred in this town, but they were comparatively mild, and yielded readily to remedies. About the first of January, 1832, the disease assumed the character of an epidemic, which continued to rage with great severity, until about the middle of March, when it abated, but did not disappear until midsummer. The month of June was very warm, nevertheless the disease was decidedly worse during *this* than the two preceding months; some of the worst cases occurred in this month. The number of deaths from the disease is not precisely known, but supposed to be about eighty—our entire population is about three thousand.

The disease had prevailed in some of the neighboring towns and districts for two or three years, before it visited Steubenville; within which time it had almost surrounded us. More than a year before its appearance here, it had prevailed in districts on either side and not more than fifteen miles distant, and wherever it did prevail, was attended with great mortality. The first deaths here were in the latter part of December. In the first week of January, I lost two patients in the same family; they died within two days of each other, one in twenty-two, and the other in thirty-six hours from the attack. I was surprised by the suddenness of death in these cases, but was forced to ascribe it to cerebral congestion, from the symptoms of the disease, and time, and manner of death. The body examined, as re-

ported at the end of this paper, was that of the last of these. In the first of these cases, there was no blood drawn; in the second but a very small quantity, and in neither of them was there any effectual operation from cathartic medicine.

I must be permitted to say, that the division of this disease as found in the books, is altogether unsatisfactory—it was not always possible to recognize the peculiarities, which are said to mark its different varieties. A more natural division of it would seem to be, into simple and congestive, or compound scarlet fever, inasmuch as this will enable us to distinguish those cases, which, from their mild and lenient character, scarcely indicate the use of remedial agents, from those in which the utmost attention is frequently necessary to avert a fatal issue; and to point us to the real source of danger.

Dr. Sydenham has said, that simple scarlet fever, "is but a disease in *name*, and only dangerous from the too great officiousness of the physician." It is certainly a mild disease, and one in which medicine need scarcely be given. We had many cases of it during the late Epidemic, and the only consideration calculated to attach importance to it, is the danger always to be apprehended, of its changing its character, and assuming the congestive form. The symptoms which characterize simple scarlet fever, are well described in our books—they are those which, in general terms, indicate very moderate febrile excitement; if preceded by a chill, it is apt to escape observation. Sometimes the fever will be considerable, but superficial, seeming to expend itself mainly upon the surface; some soreness of the throat attends, the patient complains of weakness, and of uneasiness in the head; pulse never exceeding twenty beats in the minute, unless the child be very young and irritable. In two or three days, the eruption is apt to make its appearance, which in due time disappears, followed by desquamation. During the presence of this form of the disease, the stomach and bowels are somewhat deranged, vomiting rarely attends—evacuations from the bowels, frequently dark. As I have said before, little need be done. It is proper to protect the patient from cold, and preserve the bowels open by the use of gentle

cathartics, such as castor oil, magnesia, or rhubarb. But slight and unimportant as the disease may be, the physician should bear in mind, that there is always danger of its assuming a different and more dangerous aspect; I saw many cases in which the symptoms for two or three, and in one instance, four days, were so mild as scarcely to require medicine, suddenly, and without any assignable cause, assume the most alarming character.

Congestive or complicated Scarlet Fever, is a very formidable disease; consisting of the usual symptoms of scarlatina, to which local congestion is super-added. Perhaps it may be said, that local *inflammation* may be present; this may be true, as I am not able to prove the contrary, and therefore I have designated this form of disease congestive, or *complicated*. I am strongly impressed with the opinion, however, that, in scarlet fever, when any of the viscera of the body are involved in disease, venous congestion and not inflammation, forms the general character of the local affection. Having been present at but one dissection of a body after death from the disease, I could not rely upon the evidence, however strong, which that case afforded, of the truth of my opinion; but upon the fact, rather, that during the entire period of our epidemic, although complicated cases of the disease presented themselves constantly, affecting, in turn, most of the viscera of the body—yet the phenomena of inflammation of any of these viscera were not observed in a single instance. This fact, if one it be, is of no particular practical importance, although it may serve to explain, in some instances, the effect of remedies.

The organs most frequently involved in this congestion, were the *Brain*, *Lungs*, *Stomach*, *Bowels*, and *Liver*. The disease of the throat was always present; this, although rarely the source of danger, will be described hereafter.

Scarlatina with Cerebral Congestion. It has frequently been remarked, that inasmuch as the brain, in childhood, is more perfectly developed than the other viscera, it is more obnoxious to disease, a priori, than any other. Whether it be attributable to this, or some other cause, it is certain, that in a large majority of cases of the late epidemic here, the brain was the organ more

especially involved. The attack was usually sudden, and generally ushered in by vomiting, which was followed by speedy and violent reaction, the pulse sometimes in a single hour from the attack, beating 150 strokes in the minute; pain in the head was sometimes complained of, but not always, even when the patient was old enough to describe his sensations; the skin of the head and trunk preternaturally warm, while the extremities were generally cold; the tongue never failed to exhibit its peculiar appearance, it became furred and the papilla elevated; in one case, these were so much elongated that they might have been shorn with common scissors. This case terminated fatally on the fourteenth day. In some protracted cases the tongue became clean and dry—the throat was uniformly inflamed in a greater or less degree, usually exhibiting the specks or ulcers which accompany scarlatina anginosa; the pulse was always frequent in dangerous cases, above 150, sometimes 200 beats in the minute. In every variety of the disease, the frequency of the pulse afforded a good ground of prognosis. If it ranged at or below 130, a favorable issue might be anticipated; this rule was rarely deceptive: bowels uniformly torpid. The eruption was by no means uniform in the time of its appearance, sometimes it would shew itself on the first, and sometimes as late as the third or fourth day, and in some cases it was absent entirely. If in this form of the disease, active remedies were not used early, the case never failed to terminate fatally;—every thing depended upon this, and where the disease was permitted to run its course unchecked, even for a few hours, the issue was always doubtful,—and if it did not terminate fatally in two or three days, it made an impression upon the constitution, and especially upon the brain, from which the patient could scarcely recover. Two cases came under my observation, in which the attacks were violent, accompanied from the first with great determination of blood to the brain, threatening the speedy extinction of life; the treatment was rather temporising—they were bled in small quantites; the treatment served to avert fatal congestion for a time, but it was inadequate to the cure of the disease; they were protracted, one to thirteen and the other to

fourteen days, when they terminated fatally. During the entire period, evidence of cerebral disease was very clear, and death at last, was obviously the result of this. Sometimes the attack was less violent; for two, three, or four days the fever would be moderate and diffuse, the brain scarcely seeming to suffer, when after the lapse of several days perhaps, the heat of the head, throbbing of the carotid and temporal arteries, with suffusion of the eyes, would clearly indicate cerebral disease. During the month of February, especially, many cases occurred in which the force of the disease fell upon the *lungs*. In these cases the attack was not usually so sudden, and so far as my experience enables me to say, was not so frequently accompanied with vomiting. Here, a cough, and the usual symptoms of pulmonary irritation were superadded to the other symptoms of scarlatina: the cough was usually dry in the early stage, and indeed, until a crisis was attained. I had one patient, a little boy two years old, in whom this cough was almost incessant for two weeks; he was in charge of a most vigilant nurse, and she assured me that there was no time during this period in which he had half an hours respite from it. In this case the pulse for fifteen days was constantly 160 or more, in frequency. He recovered. The pulse, in this form of scarlatina, was quite as frequent, as in cases accompanied with cerebral congestion; the bowels were less torpid, medicine operating upon them with less difficulty: the appearance of the throat and tongue not differing, so far as noted from the variety above mentioned.

The appearances of the throat were various; I am not aware that this ever escaped entirely, but the inflammation in some dangerous cases was very trifling; in others, there was, very early in the disease, general redness of the face, approaching in some cases to a purple hue, accompanied with ulcerated specks on the glands especially, but occasionally on different parts of the fauces and palate. A singular circumstance was occasionally noticed, as connected with this inflamation of the throat, but which has not escaped the observation of authors,—it is, that although much inflamed and ulcerated, the patient is unconscious of it. I saw a few cases of this, the first was a lady who

took the disease a few days after her confinement in childbed. The symptoms of scarlatina were clearly defined, but she insisted that she had no soreness, or other uneasiness of the throat; the next day, however, on examination, her fauces were found of a deep scarlet hue, with many deep seated ulcers of the tonsils. A few cases occurred in which the tonsils were so much swollen as to endanger suffocation; they suppurated and discharged large quantities of pus: these cases were confined, so far as I know to adults. A stiffness of the muscles of the neck, rendering the motion of the head painful was frequently observed.

The lining membrane of the mouth and throat presented, in some cases, one entire ulcerated surface accompanied with dry ulcers of the lips and nose, and many of the symptoms of scarlatina maligna. This state was preceded, it is believed in every instance, by symptoms of high excitement, which lasted several days. A little boy, six years old, was attacked suddenly and violently, with the symptoms above mentioned as characterizing scarlatina with cerebral determination. He was bled and cupped freely, took an emetic, and used the other remedies to be mentioned hereafter for this form of the disease, and on the fourth day all danger seemed to have passed off, he was, apparently convalescent: His throat had been considerably inflamed, but not unusually so; but at this time, however, it was observed that his mouth and throat were about to assume the ulcerated appearance—and in twenty-four hours the lining membrane presented one entire ulcerated surface. The orifice from bleeding had healed, but it became open, and assuming a species of dry ulceration, continued to enlarge for several days—a low typhoid fever attended, accompanied with an irritable state of the stomach and bowels, with occasional vomiting and purging—His life was almost despaired of for upwards of two weeks, but he finally recovered after the lapse of seven weeks. A suspended secretion of urine attended in this case much of the time. Anasarea and aseites, with temporary deafness supervened—but he is now entirely recovered from them, and enjoys good health. This form of the disease had many of the attri-

butes of cynancha maligna; it was attended by a low typhoid fever, frequent and quick pulse, dry skin, with all the signs of adynamia. If the patient had been bled, the orifice would either not heal, or if healed, would open, and assuming an unhealthy character, perfectly dry, would enlarge from day to day, which was never arrested until the death of the patient, or a favorable crisis of the disease. I knew of but one recovery after this state of the skin occurred. The extent of this sloughing, or ulceration, was frequently very great. I saw one case in which the skin was destroyed for several inches, leaving the vessels and tendons bared; the patient was much exhausted from the low typhoid fever, which attended, and which was accompanied with delirium, and some twenty days of suffering, was suddenly cut off by hemorrhage from the wound, occasioned by one of the vessels being involved in the process of destruction. Mr. Colden alludes to this state of the skin, when he says, in reference to the impropriety of depletion in cynanche maligna, "the consequence of evacuations is an insurmountable tendency to mortification, so that the very orifice made by the lancet mortifies." It is proper to remark, however, that this state of the skin, although it is believed to have attended in every case of the disease in which the ulcerated state of the mouth just mentioned was present, was not, by any means confined to them. The train of symptoms above mentioned, as constituting a close approximation to scarlatina maligna, or cynanche maligna, did not occur very frequently; but the condition of the skin just mentioned, as evidenced by the state of the orifice from bleeding, occurred, so far as I know, in every fatal case of scarlatina, when death did not take place within the first week. My attention was early directed to this fact; I examined the orifice made by the lancet, when the patient had been bled, with as much interest as I did the pulse, especially with a view to a prognosis. If the patient had been bled early in the disease, and the orifice healed, and the case terminated fatally at last, death in several cases is known to have been preceded by an opening of the orifice: but more commonly, the orifice would not heal, if the case was to terminate fatally. That the *bleeding* had any agency in

the production of this state of things, cannot by any means be admitted, the reverse is believed rather to have been the truth.

The condition of the stomach, bowels, and liver, will be noticed in the course of the treatment.

The cause of scarlatina, whatever it may be, operates with peculiar force; the attack is usually sudden, and so violent, that unless active remedies are called in requisition early, the patient is lost. The first effect of the disease is to drive the circulation and excitement from the surface, and to concentrate them upon some vital organ; this impress may be so violent as to prostrate, in a single hour, the vital energies to such a degree, as to prevent the power of reaction. My friend, Dr. Andrews, had well nigh have lost a patient from this cause, but by the use of the warm bath and mustard to the surface, he succeeded in exciting reaction. Writers upon this disease, as well as some other epidemics, speak of sudden deaths occurring during their prevalence without any assignable cause. There can be little doubt, I think, that these sudden deaths are the effect of the first impress of the disease, so paralyzing the powers of the system, as to extinguish life immediately, without any of the usual phenomena of the disease. Reaction, however, usually follows, and follows very rapidly, and if this first paroxysm is not met by appropriate remedies, it will either extinguish life in one or two days, or produce such a degree of engorgement, or lesion of the organ involved, as to render all attempts to save the patient unavailing. I allude of course to the more severe form of the disease. The object of our remedies is to restore the lost balance of the circulation and nervous energy, and to protect the organ upon which the force of the disease seems to be expending itself. The remedies upon which reliance was principally placed, were: bleeding, general and local; emetics; cathartics; cold water; antimonials; blisters; &c.

Blood-letting. As the patient was rarely seen until reaction was established, if the pulse was frequent, as it always was, in bad cases, this remedy was usually resorted to early; and although it may have been used in some cases in which the cure might have been effected without it, and although success did

not always follow its use, I am not advised that it was ever supposed to be, in any wise prejudicial. One thing is very certain, where this remedy was used freely early in the disease, the case never had the rapidly fatal termination, which did occur, where it was omitted. It would, at least, protract the disease, and give time to use other remedies, and this was the chief motive for its use. It was frequently necessary to repeat it, perhaps in a few hours, and sometimes on the second day, or even later in the disease. When the brain was the organ involved, the necessity for the remedy was more imperious. The quantity drawn, was not definite; but governed by the rules which direct the use of the remedy in other diseases. It is used here to prevent, say fatal congestion of the brain,—I might say apoplexy. I wish to guard the younger members of the profession, especially, against a doctrine as false as it is mischievous, that there is some peculiarity in the disease under consideration, which, if it does not deter us from bleeding altogether, should at least prevent us from being governed by the rules which govern us in the use of the remedy in all diseases. It was not usually carried to the extent of syncope. This is hardly safe with children in any disease, yet this did happen in a few cases, and without any bad consequences. The remedy was scarcely ever repeated more than twice, frequently it was not repeated at all; our object was at one bleeding, to take the quantity adequate to produce that impression upon the system, without which, bleeding, in acute diseases scarcely deserves the name of a remedy.

*Cupping.** This is a remedy of great value in scarlatina, and one upon which much reliance was placed in the treatment of the late epidemic. If the disease was accompanied with cerebral determination, the cups were applied to the temples, or the nape of the neck, or both. They are rarely calculated to supercede general bleeding; but when this had been premised, and the general tendency to congestion was still apparent, a few ounces of blood drawn from the temples or nape of the neck, exerted great influence over the disease. On the first attack, as much depended upon making an early impression upon the

* We have no medicinal leeches here.

disease, blood was frequently drawn from the neck or head, one or two hours after the general bleeding; cups draw blood more freely from the temples, than the back of the neck; from the former several ounces may be taken very conveniently. I have frequently produced a very sensible effect upon the pulse by typical bleeding from the temples, and thus the necessity ot repeating general bleeding is sometimes obviated. In the more advanced stages of the disease, the necessity for their use was very frequent. In some cases they were applied once or twice daily, for several days in succession. When the lungs were the seat of the disease, they were applied to different parts of the chest and back, with equal effect. I saw a few cases, especially in adults, in which the tonsils were so much swollen as to endanger suffocation; blood in these cases was drawn from the sides of the neck with the best results. I saw a young woman about twelve hours after her attack, insensible, with the glands of her throat so much swelled that she was unable to speak and scarcely able to breathe. I drew some blood from the arm, which induced vomiting, but she still refused to take drinks—waiting half an hour, and her breathing remaining the same, I drew perhaps two ounces of blood from the sides of the neck; when she was almost immediately able to swallow and breathe with comparative ease. I would impress upon the minds of physicians the importance of topical bleeding in scarlatina. Why it is that this remedy exerts more influence over visceral disease when the accompaniment of scarlatina, than when induced by other causes, may be a subject of speculation. If the fact exists, and it is believed it does, a knowledge of it is of the utmost importance in therapeutics.

Emetics. These have long been held in high estimation in the treatment of this disease, and their value does not seem to have been over-rated. There are two indications which they are intended to answer: in the early part of the disease, more especially, they are designed to equalize excitement, and restore the circulation to the surface, and thus to counteract the tendency to congestion; and in the malignant form of it they are prescribed for the purpose of removing from the stomach offensive

matters, and to cleanse the throat. It was to fulfil the first of these indications almost exclusively, that they were used here. They usually constituted the first medicine given; if the patient was bled, the emetic was administered immediately after, either alone or in conjunction with calomel. I usually gave the emetic singly, taking care to ensure its free operation before I administered the cathartic; it is of the first importance that the emetic should operate well, I preferred the tart. antimon. to any other article; if the child was under a year old, the wine of antimony was preferred. Governed by correct views of the object to be attained by emetics in this disease, Dr. Tully, of Albany, insists upon the superiority of the sanguinaria canadensis, over any other article. I confess that before the disease visited us, I felt inclined to join in this preference, but being more familiar with the use of other emetic articles, and finding the antimony produce what seemed to be the necessary effect, I was induced to adhere to it. Emetics were not confined to the early stage of the disease; if during its progress, the excitement seemed to be unequal, the tendency to congestion still present, they were repeated; they were frequently repeated more than once in the same case, under the same circumstances, and always with good effect. They were alike valuable whether the disease threatened congestion of the brain, or some other organ, and perhaps there was no remedy which exerted so much influence over the soreness of the throat.

Cathartics. If the experience afforded by the late epidemic can be relied on, one would be inclined to think that the importance of purging in scarlatina anginosa, has not been properly appreciated by the profession generally. Dr. Cullen merely recommends that the "belly be kept open." Dr. Rush, in speaking of the disease, as it appeared in Philadelphia in 1783 and 1784, says "During the whole course of the disease, where the calomel failed to open the bowels, I gave lenient purges, when a disposition to costiveness required them." Thomas recommends that you dislodge from the bowels, at the commencement of the disease, its feculent contents, and afterwards trust to injections. Underwood says, "Should the body be costive at the

time of the attack, an opening medicine should be given previous to the administering of bark or cordials," and subsequently, "if the child should be two or three days without a stool, a laxative clyster should be injected." Gregory recommends moderate purging, and Dr. Calhoun, in his notes on Gregory's practice seems to contemplate nothing more than to keep the bowels in a soluble state. Now these authorities are much relied on; these books are to be found in almost every medical library in the country, and a physician may suppose that his collection of practical works is tolerably ample, when he may not be in possession of a single authority for *active purging* in scarlatina. It is true we are not without such authorities. Hamilton, Armstrong, Cazenave, Dewees, and some others, insist upon their use, not merely to obviate constipation of the bowels, but with a view to their purgative effect. Dr. Armstrong, who has shed more light upon the pathology of scarlatina, than any other man, says that "some judicious practitioners of my (his) acquaintance, entirely confide in tepid affusions and purgatives; and the great success which I have repeatedly witnessed from this treatment, warrants me in giving it a strong recommendation in this variety* of scarlatina."

No remedy may claim precedence of purging in scarlet fever. I believe that one of the earliest effects of the disease is, to suspend bilious excretion, and it is surprising how soon the bile in the bladder assumes a dark color. Until this is discharged, and the emunctories of the liver freely opened, the patient has little chance to get better; but so soon as this is accomplished, the improvement is almost uniform. I have known many cases in which mercurial cathartics operated freely in eight or ten hours from the first attack, and the stools invariably presented a dark and bilious appearance, in some cases having near the color and consistence of tar. Let us bear in mind the importance of effecting bilious evacuations from the bowels; no reliance could be placed upon the reports of nurses; perhaps the patient would pass *something* every few hours, but if its character was inspected, it would be found to be liquid, with, perhaps a small quantity

* Scarlatina Anginosa.

of the mucus of the bowels. The color of these dejections was various; sometimes tinged with green, frequently brown, or of a muddy color; but they were uniformly small in quantity, unless medicine produced its proper effect; whenever this could be attained, even the first day of the disease, the stools were either black, or of a dark green appearance, consistent, and in large quantities. Let the physician bear in mind, that he has no reason to expect the recovery of his scarlet fever patient, without obtaining the kind of stools last mentioned, and then there is little danger of his being deceived by the reports of nurses, or by his own observation. If he is not impressed with this important truth, even if he examines the alvine discharges ever so carefully, he may suppose that cathartic medicine has performed its office well, while, in fact, it has been utterly useless. The use of purgative medicines in our epidemic, was entered upon early: if they were not combined with, they were given immediately after the emetic. Calomel was always used, but to promote its operation, various other articles were given, such as castor oil, calcined magnesia, senna, croton oil, &c. To a child two years old ten grains of calomel, was frequently given at a single dose—sometimes it was given in small doses, frequently rejected, it became matter of much importance to find an article which would assist the calomel and set well upon the stomach. Croton oil was found to answer this purpose best: the following preparation was very effectual and much used:

℞. Calomel ℈j.
Croton oil, qts. iv.
Syrup simp. ℥j.

Dose, a teaspoonful every hour or two, adapted to a child two or three years old. When the stomach would retain it, castor oil was used instead of the syrup. Some other cathartic article was usually given in the interval. I gave to a child five years old, in thirty-six hours, one drachm of calomel, fourteen drops of croton oil, one ounce calcined magnesia, two ounces of castor oil, with perhaps a pint of strong senna tea; little or none of this was rejected. The child took injections very frequently at

the same time; patient recovered. Mentioning this, as an extreme case, to one of my medical friends, he assured me that he had even exceeded it with one of his patients. If purgative medicine could be made to operate properly upon the bowels early in the disease, however severe the case, hopes of recovery might reasonably be entertained; for it not only served to mitigate the symptoms for the time, but tended greatly to facilitate their future operation. It was necessary to have purgative medicine operate daily, and the same attention to the character of the dejections, was always necessary. I think it is Armstrong who says that the operation of purgative medicine, even at the time the eruption is making its appearance, does not check it, or produce revulsion. I am rather inclined to believe that this is true, though, I confess, that having some doubts about it, I usually withheld them for a few hours after the eruption first appeared. No case is recollected in which the first appearance of the eruption was simultaneous with the free operation of cathartic medicine; but this was frequently effected a few hours after the eruption shewed itself, and before it had covered the body, and is not known to have checked, repelled, or in any degree interfered with it.

The *liver* always seemed to suffer. Only one dissection was made; in this, the appearance of the liver was scarcely changed, but the condition of the ducts, and especially the contents of the gall bladder, plainly indicated derangement of function. Calomel is believed to exert more influence over the function of the liver than any other article, it was therefore used, not exclusively, as a cathartic, until the disease was subdued, or the alvine evacuations indicated healthy action of the liver. Although calomel was used very freely every day, for several days in succession, sometimes more than a week, I am not sure that salivation occurred in a single instance. In one or two cases, the gums became swelled, but it is not certain that it was the effect of the calomel.

Cold Water. The frequency of cerebral congestion, led, very early to the use of cold applications to the head. Cloths dipped in water, bladders filled with ice, and the like were used; the hair

being previously removed. But the most effectual way in which cold could be used was that suggested by Dr. Southwood Smith of London, and which he has named the "cold dash." Enveloping the head in ice, was evidently inefficient; it would keep the surface cool, to be sure, so long as it was on, but its removal was invariably followed by preternatural heat of the skin of the head, and it could scarcely be said to exert any permanently useful influence upon the disease of the brain. Under these circumstances the "dash" was called to our aid, and with the best effects. The manner of its application was somewhat different from that recommended by Dr. Smith, but we are indebted to him for the hint. The hair being removed by scissors, the patient's head was placed over a tub, or large basin, at the bed side, and with a pitcher or coffee pot, pour upon one particular part of the head, by a small continuous stream, from 1 to 2 gallons of cold water; ice water was used; the height from which it was poured was from two to four feet; the head was then replaced upon the pillow, and on becoming warm, the same was repeated. Perhaps for a time it would be necessary to repeat the "dash" several times in a single hour; sometimes it was repeated every ten or fifteen minutes for several hours together, and its influence in overcoming cerebral congestion was surprising. Dr. Cume proposes to extinguish cynancha maligna in the beginning by copious affusion of cold water; the same has been proposed in scarlatina anginosa. That this is sometimes practicable, from the use of the remedies above mentioned, aided by the "dash," there can be no doubt. I visited a little boy ten years old, in the evening, six hours after the attack; he was laboring under all the symptoms of scarlet fever, with cerebral congestion, and was comatose. He was bled, took an emetic of tart. antimony, which was succeeded by fifteen grains of calomel, and castor oil every three hours until free bilious evacuations were obtained from the bowels; the cold dash was also used, beginning an hour after the operation of the emetic. The "dash" was repeated during the night, perhaps thirty times, and in the morning the little fellow was sitting on the hearth cracking nuts. He scarcely complained afterwards, having no eruption. We generally

waited to observe the effect of the emetic; if, as it sometimes happened, the skin became cool, accompanied with a gentle perspiration, the cold application was deemed unnecessary, and in many cases, the violence of the disease was arrested at this period, and proper attention to the bowels was only required to ensure the safety of the patient. The "dash" was used at any stage of the disease, when the determination to the brain was great; its effects were uniformly salutary. In very many cases, where the eruption was tardy in its appearance, this remedy was speedily followed by the most perfect scarlet efflorescence. I saw a patient who had labored under the disease for twenty-four hours; had not been bled, cathartic medicine had not produced the desired effect; the patient was entirely insensible; pulse perhaps 200; eyes suffused; extremities cold; could not be induced to swallow any thing. The cold dash and cold affusions were ordered, and synapisms to the extremities, and the case was trusted exclusively to this. In eight hours, when I again saw this patient, the body was about half covered with a deep scarlet eruption; pulse 140; patient sensible; tongue, which had been much loaded and dry, was now moist—in short, every symptom was much ameliorated. The cold water was ordered to be continued,—but what was my surprise, when on visiting this patient six hours after, and finding her as near as possible in the same situation as at my first visit, to learn that the "dash" and sponging had been discontinued since my last visit. The eruption which had come on a few hours after the first application of cold, had covered about one half of the body. On discontinuing the remedy, this disappeared, and the patient relapsed into her former insensibility, from which she never recovered. A high degree of visceral congestion seems to be incompatible with the appearance of the eruption, and the most effectual method of curing the disease, and indeed in bringing the eruption to the surface, is to direct your remedies to the congested organ, and subdue, by every means, the inordinate febrile accitement. If the brain be the organ invaded, the "cold dash" exerts the most decided influence upon the congested vessels, and allays, at the same time, inordinate febrile commotion.—

Children usually make great complaint on the first use of this remedy, but in a few hours, they enjoy it very much—frequently calling for its use. Many cases occurred in which the lungs and brain seemed to participate simultaneously, in the congestion; the state of the lungs was no objection to the use of the cold water. I was agreeably surprised the first time I used the dash, under these circumstances, to find that, although the cough and other signs of pulmonary irritation were very severe; it exerted no unfriendly influence over the pulmonary affection.

Antimonials and blisters are the last remedies which have been named; of their use little need be said. When febrile excitement was very considerable, and there was no particular necessity for the use of active evacuants, antimonials, given in sub-emetic doses, were found to allay fever, and frequently operate kindly upon the skin. Blisters were not used in the early part of the disease; there were two indications which they were intended to fulfil,—first, to equalize excitement without reference to local disease. When, in the course of the disease, the tendency to coldness of the extremities was obstinate, they were applied to the ankles and wrists, with their usual good effect. Secondly,—If after the necessary general depletion, local disease of any organ continued, blisters applied in the vicinity of such organ, were found to afford great relief. For this purpose they were applied to the nape of the neck, when the brain was the seat of disease; to the chest, in lung cases, and sometimes to the throat. When the disease fixed upon the lungs, there seemed to be greater necessity for their use;—these cases were usually protracted, and of their treatment blistering and cupping formed a very important part. In these cases, repetition of blisters frequently became necessary. In one case, I applied eleven, in succession, to different parts of the chest. If the first did not produce a crisis, it would dry immediately, perhaps in a few hours; and as their application scarcely ever failed to afford at least temporary relief, so the drying of them was always followed by an aggravation of the symptoms. Whenever, then, a blister was applied, a cessation of discharge from its surface was the signal for its re-application.

When the *lungs* were the seat of the disease, the cough, as I have said, was exceedingly troublesome. Various remedies were used for this, in addition to those already enumerated the compound syrup of squills (hive syrup) was much used and with good effect. Demulcents of various kinds were used; the following compound seemed to answer better than any thing else:

℞. Gum Arabic ʒss.
Cream Tartar ʒij.
Dover's powder ℈j.
Water ℔ss.

To be given to a child, say two years old, in tablespoonful doses every hour or two. The dovers powder was sometimes omitted, and then the patient might use the cream tartar and gum water for its drink; but if not given in this way, the powder was usually given either alone or in conjuction with calomel, at least once a day; nothing seeming to exert so much influence over the cough as this, at the same time that it is not known to have had any bad effect. Acids, in this form of the disease, especially, seemed to exert considerable febrifuge influence. Some of the vegetable acids were usually given in the drinks, in every form of the disease. Digitalis should not be omitted in the catalogue of remedies for scarlet fever with pulmonary congestion; or rather for the sequelæ of the disease. In a few cases, I witnessed the happiest effect from this remedy, it was given in combination with the camphorated tincture of opium.

The *throat* seldom, if ever, escaped disease. Although in a few instances this affection threatened the life of the patient, in a vast majority of cases, it was matter of little comparative importance. Stimulating liniments applied to the external part, with gargles constituted the usual remedies. The common soap liniment, with spirits of turpentine, or when the inflammation of the fauces was very considerable, the tincture of cantharides was well calculated to produce the necessary amount of irritation. Vesication was occasionally produced in this way. As a gargle, the decoction of capsicum answered a very good purpose. I would not be misunderstood in reference to this symptom. I have said that in a majority of cases, it was matter of

little comparative importance; yet, nevertheless, I am very sensible, that being a source of irritation, it tends materially to keep up the constitutional excitement, and may become the pivot upon which the fate of the patient may turn. I have frequently observed its influence upon the febrile commotion, and witnessed very sensible abatement of this, from slight vesication of the neck.

In the ulcerated state of the lining membrane of the mouth, heretofore described, a great variety of remedies were used, and it must be confessed, that local applications exerted but a feeble influence over it. In all these cases, the accompanying fever was of the low typhoid character. Although the fever in its early stage may have been inflammatory, yet so soon as this ulceration of the mouth occurred, its character changed: the pulse became weak, but frequent; patient irritable; no satisfactory examination of the inside of the mouth could be made; the soreness of this, and the lips, rendering it difficult to introduce even a spoon into the mouth. This condition of the mucous membrane of the mouth usually came on very suddenly; it would seem as if one of the effects of the disease, in these cases was to impair and almost destroy the vitality of this membrane. That the mucous tissue of the alimentary canal participated in this disorder, there could scarcely be a doubt. The remedies, so far as remedies could be said to exert any influence over it, were alkaline medicines, very much diluted, and quinine; this last given in full doses two or three times a day, or more frequently, assisted by gargles. I thought I witnessed more advantages from a strong decoction of Peruvian bark, acidulated with the marine acid, than any other gargle. But until the powers of the system were in some degree restored, no improvement in the condition of the mouth could be expected.

Is the disease contagious? This question is usually answered in the affirmative. Upon this subject the late epidemic here (for such it doubtless was) has, perhaps shed no new light. An advocate for either its contagious or non-contagious character, would not, I think, have been induced to change his views, but each might have collected many facts tending strongly to sustain

his own favorite doctrine. If scarlet fever be contagious, it is not governed by the same laws that govern small pox, meazles, and some other diseases, the contagiousness of which is universally admitted. It seems to have all the attributes of an epidemic, and yet there are facts connected with its prevalence, which would incline us to suspect, very strongly, that it does possess, in some cases, and under certain circumstances, the power of propagating itself.

Case 1st,—January 20th, 1832. Little girl, daughter of J. P., 3 years old, attacked yesterday evening with vomiting, succeeded by pain in the head, and fever; these continued all night, slept none. When I visited this child at eleven A. M. she was comatose, pupils dilated and scarcely sensible to light; pulse 150, but compressible; rather weak; tongue furred; papillæ elevated and red, eyes suffused, skin dry and hot; fauces deep red, with ulcers on tonsils. Patient so insensible that it was with much difficulty we could induce her to swallow any thing, even water —feet cold.

Vs. 83. this induced great prostration and paleness, child had nearly fainted.

Gave an emetic of vin. ant. which operated well; this was followed by grs. x. of calomel. Sinapisms to the feet and ancles, the hair removed, and cold vinegar applied to the head. Soap liniment and turpentine [3 parts to 1] to the throat.

2 o'clock, P. M. Patient sensible, pain in head continues, pulse 160; has discharged bile by emesis, cathartic has not operated—feet warm.

℥3 of blood drawn by cups from nape of neck and temples. ℥ij. castor oil, with grs. iij. of calomel ordered every two hours, with injections, as often—cold to the head continued.

9 P. M. Medicine has operated very imperfectly; symptoms the same. ℥3 of blood drawn by cups as before; magnesia is substituted for oil. Cold continued to the head, and capsicum gargle.

January 21st, 7. A. M. During the night the cathartic has operated freely, large quantities of consistent stools of a dark

green color have been passed. Child much better, pulse 120 and soft, tongue cleaning. She behaves as if intoxicated, though when spoken to, is perfectly rational.

In the afternoon, the eruption appeared, but no further attention was necessary, than to keep the bowels open with castor oil, and the occasional application of cold to the head. Recovered.

Case 2.—March 28th. Little girl aged 4 years, daughter of J. D., attacked with vomiting at 3 o'clock this morning; visited her at 9 A. M.; skin dry and very warm; pain in the head; pulse 160 but soft; tongue white; papillæ slightly elevated; fauces red; and tonsils much swollen; eyes red; feet warm.

℞. Emetic of tart. antimoni. to be followed by grs. xij. of calomel. Cold dash to be used after the operation of the emetic, the hair being removed by scissors. Liniment to the throat, with gargle of decoction of capsicum.

12 o'clock, noon. Emetic has operated well. Calomel but just given; pulse 165 and hard; papillæ of the tongue more elevated; complains of much head-ache; eyes still red; feet warm. Regretted that I had not drawn blood—the cold dash has been used for more than an hour.

Vs. 10℥. castor oil to be taken every 2 hours, with 3 grs. of calomel, and cold dash repeated every few minutes, or as often as the head becomes warm.

5 P. M. Medicine has operated well; evacuations consistent; nearly black, with green tinge; pulse 150; some appearance of eruption. Cold dash continued; no medicine.

10 P. M. Eyes red; pulse 150; tongue unchanged; tonsils shew some ulcerated specks; fauces very red; skin dry; eruption extending itself very slowly—head easy.

℞. Calomel grs. 5. with ℥j. calcined magnesia every three hours. Dash continued.

29th, 8 o'clock, A. M. Medicine has not operated to any good purpose; spent a restless night, but no headache; pulse 140; eruption general, and of a scarlet redness.

℞. Calomel grs. xx.
Croton oil gtts. vj.
Simple syrup ʒj.

Mix and give a teaspoonful every two hours, and if necessary, ʒss. castor oil at 2 P. M. Dash discontinued, but cloths dipped in ice water kept constantly to the head.

5 o'clock, P. M. Medicine has produced free discharges of dark consistent matter from the bowels. Skin cooler and soft; pulse 135; tongue cleaning at tip and sides; papillæ prominent; eruption general. Discontinued all medicine.

9 P. M. Patient doing well. Ordered ten grains of calomel, to be followed by castor oil or magnesia.

The recovery was rapid, nothing more being done than to keep the bowels open, which was easily effected.

In this case, the cold dash seemed to supercede the use of topical bleeding, and effectually to control the vascular action of the brain. The neglect of bleeding at my first visit had like to have cost my patient her life.

Case 3.—May 25th. B. T aged 7 years, was attacked about midnight with the usual symptoms. I saw him at 10 A. M.; pulse 160; complains of head; has vomited frequently; tongue white; papillæ distinct and prominent. Skin hot and dry; fauces and tonsils slightly inflamed; feet warm. I was making arrangements to bleed my patient, when I was required suddenly, to visit another patient, whose case would admit of no delay, and I thought perhaps it might be safely omitted; I therefore ordered an emetic of tart. ant. to be followed by 12 grs. of calomel, the hair to be removed, and the head kept wet with cold vinegar.

At 2 P. M. I was called in great haste—patient insensible; talks incoherently; bathed in a general and profuse perspiration; the whole body cold, except the head; no pulse to be felt at the wrists or ankles; pupils of the eyes much dilated, scarcely moving on the admission of light. He was immediately placed in water at about the temperature of 120°; kept there for five minutes; and on his removal, sinapisms were applied over the

region of the stomach and to the extremities, and cups applied to each temple; by which nearly 6 ounces of blood were daawn. I remained two hours with my patient, and when the mustard induced redness on one part, it was changed to another. The cold dash was used immediately after the cups were removed, and repeated every few minutes during the time. At length he was able to swallow drinks in small quantities. Whiskey and capsicum tea were given in such quantities as he could be induced to swallow. After he had swallowed perhaps half a pint of the latter, with some two or three ounces of the former, he vomited, which was soon succeeded by return of heat to the surface, and subsidence of the perspiration. At 4, I left him, with instructions to continue the dash and sinapisms; was called again at 5; found the little fellow in convulsions, which had already lasted near half an hour. I re-applied the cups to the temples and nape of the neck, and in half an hour perhaps succeeded in obtaining 5 or 6 ounces of blood—the dash used every few minutes while this was doing. The spasms abated, and vomiting returned,—when he could be induced to swallow, the same drink was given; but the vomiting recurring every few minutes, nothing would remain on the stomach. At length, about 10 o'clock, P. M. his skin became generally warm, with gentle perspiration, vomiting ceased. 15 grains of calomel were given—cold dash continued, with external warmth to feet.

12 at night. Has not vomited since ten—pulse at the wrist can be perceived. No other particular change; he lies easy.

℥iv. of blood drawn from the temples, and the following medicine ordered:

℞. Calomel grs. xxv.
Croton oil gtts. viij.
Simple syrup ℥i.

Mix. Give a teaspoonful every two hours, ℥ss. Ol. Ricini at 1 o'clock, to be followed by purgative enemata. Dash continued.

26th, 6 A. M. Patient better; cathartic has operated well, dejections thick and of a dark green hue; patient quite sensible; pulse merely perceptible at wrist; extremities blistered by the mustard; epigastrium almost blistered. The body is almost

covered by a very perfect scarlet eruption; child slept some in the last part of the night; complains of nothing but his blisters.

Cold sponging to the head, substituted for the dash. Omit medicine.

12 o'clock, noon. Pulse very perceptible at the wrist and ancles; cannot be counted, owing to its vibratory character; should suppose it is not less than 180; patient sensible, and complains of headache; eruption very general.

Give the croton mixture every 3 hours and a tablespoonful of castor oil in each interval, with injections. Continue cold to the head.

10 P. M. Medicine has operated imperfectly; skin hot and dry; eyes red; pulse much as before, only that there is a degree of resistance perceptible upon pressure.

Vs. 8ℨ and 3ℨ drawn from nape of neck by cups. Medicine continued, with the exception of the oil, for which senna tea is substituted. Injections every two hours. Resume cold dash.

27th, 6 A. M. Medicine has operated abundantly; dejections black; child every way better. From this time, nothing was done, except to see that his bowels were kept open; unless that cold to his head was used during this day. His recovery was rapid.

This case is highly interesting. It is one of those occasionally met with, not only in scarlet fever, but other congestive diseases, in which the physician must deplete and stimulate at the same time. In this case, the vessels of the brain were so injected with blood, and, as a consequence, so much enlarged, that they produced pressure upon the origin of the nerves, which, in one or two hours, probably, would have destroyed the life of the patient.

Post Mortem Examination of the body of a child three years and four months old, which died of scarlet fever, 36 hours after the attack.

January 8th, 1832. Twenty-one hours after the attack, in presence of Drs. Leslie, Dickson, Andrews, and Mairs, I proceeded to examine the body.

External Appearance.

Great discoloration of the skin of the back and most dependent parts of the body.

Internal Appearances.

Abdomen. On opening this, the bowels were found considerably distended with air, and containing a few worms. The gall bladder very much distended, and some yellow bile on the neighboring parts, as if it had escaped from the bladder. On pressing this, it was found impracticable to force the contents of the bladder into the bowel. Before opening the gall bladder, the stomach was removed and found to contain about 12 ounces of dark green fluid, which emitted no particular odor. The villous coat of the stomach of the natural firmness, but in many parts exhibited reddish patches: the peritoneum was streaked with red vessels. On opening the duodenum, a probe was passed from it into the ductus cholidochus, as far as the junction of the hepatic with the cystic duct, but was not easily passed into the gall bladder. The gall bladder was found, on opening it, to be full of black bile, having a shade of green, scarcely to be recognized. Nothing remarkable in the appearance of the liver; the pancreas, rather large and dense. Nothing here could account for the sudden death; I proceeded to examine the

Fauces. Left tonsil of the size of a hickory nut, and contained a small ulcerated cavity: right tonsil natural—papillæ on the back part of the tongue much elevated. On the posterior part of the pharynx, several ulcerated specks, some as large as half a grain of wheat. Descending the trachea, there was some redness for one and a half or two inches, after which the appearance was natural.

Chest. Pleura costalis exhibits slight vascular engorgement; the posterior part of the lungs, contains extravasated blood, sup-

posed to depend upon the position of the body since death. No other mark of disease.

Brain. On removing the upper part of the cranium, the the cause of death was apparent in a moment, the veins of the brain, and sinuses of the dura mater were full of blood, as if violently injected; the vessels of the pia mater were swelled to four times their natural diameter, and so numerous, that the appearance of the brain was altogether unnatural. The child had died of apoplexy: In other words, although it is proper to say, that the disease was scarlet fever, yet the immediate cause of death was the vast amount of blood in the vessels of the brain, which, pressing upon the substance, had extinguished life. The same vascular injection pervaded the entire substance of the brain, including the medulla oblongata; the spinal marrow was not examined, but was supposed to be in a similar state.

ART. III.—*Report of a Case of a long standing Ulcer, from which were extracted three Teeth, resembling those of the Human Jaw.* By JAMES C. FINLEY, M. D.

In April, 1832, I was requested to visit Harrison ——, about 19 years of age, who had labored since the third year of his age, with a troublesome ulcer upon the abdomen. Upon examination, I found an ulcer about two inches below the original situation of the umbilicus. The external opening was small, but upon examination with the probe, it was found to extend downwards about two inches, under the symphysis pubis, and to occupy about the same extent from side to side. The sinus appeared to be filled by a compressible but very elastic tumor, and there protruded from the orifice a quantity of long black hair, which, from its length, was supposed to grow from the bottom. The bottom of the sinus, when examined with the probe, was endued with great sensibility; and when irritated, produced

a desire to evacuate the bladder and a painful sensation in the glans penis. There was constantly discharged a thin and very offensive fluid that rendered the situation of the patient very uncomfortable.

The general health of the patient was good, and his appetite and digestion regular, although his complexion was sallow, and his constitution delicate.

An attempt was made to dilate the orifice of the sinus with wax bougies, which were retained in their position by a bandage passing around the body, increased in size as the orifice dilated; but the enlargement went on very slowly on account of the extreme sensibility of the orifice of the sinus and the cartilaginous hardness which its walls assumed. While pursuing this course, a wash of the chloride of lime was daily used; by which the offensive smell of the discharge was removed, and in a few days the hair came out, and never afterwards made its appearance.

When the orifice of this sinus became sufficiently distended to enable us to see to the bottom, it was found to be filled with a sarcomatous tumor, originating from a broad base of cartilage and bone; bleeding profusely when wounded; and, when any part was removed, quickly regenerated again.

At an early period of his childhood, a small sore had formed at the umbilicus, supposed, by his parents to be produced by the bite of a wood-tick, which, instead of healing, had rapidly burrowed into the cellular texture, and, probably, occupied the sheath of the rectus muscle.

About two years before, a physician in Indiana had attempted an operation, the object of which was to lay the sinus open, remove the unnatural growth with which it was filled, and permit it to heal from the bottom. This object was but partially accomplished, in consequence of unanticipated difficulties. The blood flowed very profusely, and the cartilaginous structure which occupied the wall of the sinus next the abdomen, of so dense an organization as to resist the action of the knife, and being more extensive than had been originally supposed, was not entirely removed. The patient being unwilling to submit to a repetition of the operation, an unsuccessful attempt was

made to destroy it with caustic, and consequently, the sinus, although diminished in extent one half, remained with all its inconveniences.

Our first project of a cure was to dilate the orifice of the sinus until the whole of its internal surface was exposed to the action of the air, hoping that the looseness of the cellular texture which covers the abdomen would admit of this extension; and, expecting that the secreting surface with which it was lined would then assume the character of the common integuments. In the first of these expectations we were disappointed, for although on the first application of the bougie, dilatation was easily effected; yet, as we proceeded, the cellular texture became exquisitely sensible, much thickened, and acquired a density almost cartilaginous.

Disappointed in this expectation, it was our design to remove the growth which was probably the original cause of this sinus, and which seemed to form the principal obstacle to a cure. This was a task of no little difficulty. The tumor commenced at the orifice with a base extending downwards an inch, and from side to side about two inches, and from this extending so as to fill the whole cavity. The cavity thus filled was irregular in its shape and possessed of great sensibility; and in addition, the tumor when wounded, bled so profusely that if the wound were at all extensive, it could only be checked by filling the whole cavity with lint.

Under these circumstances it was found to be impracticable to remove the whole of the tumor. At different operations, however, the whole of the bony and cartilaginous base upon which it was founded was taken away, and only a small portion of the sarcomatous part left deep in the sinus, and which it was very difficult to remove without subjecting the patient to more pain than he was willing to submit to.

But one other prospect of cure now remained, viz: to cut through the cellular texture which formed the external wall of the sinus and remove so much as would secure the exposure of the whole to the air. This, however, was so much thickened

and so sensible that the patient was unwilling to submit to such an operation, and the prospect of a perfect cure was abandoned.

His condition, however, is very much improved. The sinus is dilated very nearly to the bottom, and although it is still necessary to keep up the distention, yet in consequence of its exposure, the discharge is very much diminished, and its offensive nature so far removed, that by daily washing it with the chloride of lime, he is enabled to get along very comfortably.

The examination of the bony structure which was removed presented some very curious phenomena. Two perfectly formed human teeth projected from the surface of the tumor—the first, a dens caninus rather smaller than natural for a tooth of the second growth, but with a root of the natural size—the second a bicus pis perfect in size and formation, and scarcely to be distinguished by the closest scrutiny, from one extracted from the jaw of an adult. These teeth were inserted in a socket formed upon a piece of very firm bone about three-fourths of an inch in length. At a subsequent period two additional pieces of bone were removed, the one about the size and texture of the former; the other nearly round, three-fourths of an inch in diameter, and of a light cellulated texture. These pieces of bone appeared to constitute the basis upon which the tumor was formed, and were so firmly connected with the body as to admit of little motion.

Respecting the origin of this unnatural growth, it is useless to speculate. Whether it was congenital or not, it is impossible to decide. Perhaps the difficulties respecting its formation are diminished by supposing its rudiments to have been formed coeval with conception, and to be analogous in its origin to those rude attempts at organization which we meet in the ovaria of females, and occasionally in other parts of the viscera—and sometimes even in the male.

Reviews and Bibliographical Notices.

ART. IV.—*A Treatise on Fevers.* By SOUTHWOOD SMITH, M. D. Physician to the London Fever Hospital. Philadelphia: Carey & Lea—pp. 450, octavo.

Clinical Illustrations of Fever, comprising a Report of the cases treated at the London Fever Hospital, in 1828 *and* 1829. By ALEXANDER TWEEDIE, M. D., Physician to the London Fever Hospital, &c. &c. Philadelphia: Carey & Lea—pp. 150, octavo.

Fevers, from the earliest records of medicine until the present day, have formed the principal outlet of human life. They have, accordingly, received from physicians a degree of attention corresponding to their importance. From Hippocrates down to the numerous teachers of medicine who enlighten and adorn the age in which we live, almost every individual who has endeavored to establish a reputation by his writings, has offered to the world his disquisitions upon the causes and nature of fever, and the results of his experience in its treatment.

Of the numerous writers who have distinguished themselves in this department of professional science, few have enjoyed greater opportunities for observation, and few have the appearance of having devoted themselves to their task with a more patient spirit of investigation, than the gentlemen whose works are now under consideration.

The London Fever Hospital is capable of containing about 60 patients, and there pass through the wards annually from six to seven hundred patients. Two physicians are attached to the Institution, under whose care the patients are placed alternately, in the order in which they are admitted: there is one assistant

physician whose duty it is to perform the duty of the ordinary physicians when either of them may be incapable of attending; and there is besides, a medical officer resident in the house. A history of each case, containing an account of the age, occupation, and residence of the patient, together with as full a statement of the symptoms of the disease, and of the order of their succession, as can be obtained, is entered in the journal by the resident medical officer. Each of the ordinary physicians attends daily, and enters in his journal a daily report of each of his own cases. The resident medical officer goes round the wards twice a day, to observe if any change requiring attention may have taken place in any patient, and all such events, with the modifications of treatment they have required, are entered in the journals. Every case that terminates fatally is examined after death, and an account of the morbid appearances is entered in a book kept for the purpose. In this manner, in the progress of years, a mass of facts accumulates, relating to the statistics, the types, the symptoms, the causes, the diagnosis, the pathology, and the treatment of the disease, whether successful or unsuccessful, which, both on account of the fullness and accuracy of the record, and of the extent of period it embraces, cannot but be of great value.

When these gentlemen were appointed to the office of Physician to this Hospital, they were informed that among the objects contemplated in its establishment, two things were considered of paramount importance: first, the accumulation of facts by which the true nature of fever might be more certainly ascertained; and secondly, the cautious trial of remedies by which a more sure and successful mode of treating this fatal disease might be discovered.

With opportunities of this kind for making such investigations, we might suppose that their works would abound with valuable observations and details; nor will the reader be disappointed. The works of both authors are eminently practical, and besides the history of numerous cases, and the *post mortem* appearances presented by them, we are furnished with valuable statistical accounts, calculated to shew the influence of age, sex,

occupation, locality, and of the weather, upon the type and mortality of the disease, as well as in producing a susceptibility to it.

The two authors appear to have written without any concert, neither referring to the other, although their general views of pathology are very similar, and they have indiscriminately had recourse to the same reports of cases and to the same statistical accounts.

Dr. Smith, nothing intimidated by the bad success of his predecessors in this field of investigation, enters boldly into a general discussion of the nature of fever. That he was not acquainted with the difficulties and sources of error which beset his path, the following extract will abundantly show.

> When we consider how many circumstances connected with the origin and the propagation of fever are wholly unknown, which if known might have a most important influence in preventing its occurrence, in arresting its progress or in lessening its mortality; when we consider in what profound obscurity the very nature of the agents that produce it is still involved; when we consider how easy it is to swell the long catalogue of its symptoms, but how difficult it is to discriminate which, even among the most prominent of the train, are the essential and which the adventitious, and how still more difficult it is to ascertain which are the invariable antecedents and which the invariable sequents, or which the causes and which the effects; when we consider how few comparatively of the external appearances have been ascertained to be the sure and certain signs of any known condition of the internal organs, and how often the existence of several known conditions of the organs remains altogether unsuspected until the demonstration of it is afforded by inspection after death, and when finally on all these accounts we consider how vague the objects must be that are aimed at in the treatment, and consequently how uncertain, how indiscriminate, how fruitlessly inert, how perniciously active, how unsuccessful, how fatal that treatment often is, it must be admitted that fever still presents to us a vast field, in the culture of which the difficulties to be overcome are not slight, and the most diligent labor that can be bestowed upon it may by no means be attended with a sure reward.—p. 14–15.

After taking a general view of the theories of preceding writers, and painting out the erroneous views upon which their speculations are founded, he commences the investigation of the subject, by asserting, that the subject of fever cannot be understood until clear and satisfactory answers are obtained to the following inquiries:

1. What is the series of phenomena which constitutes fever? 2.

What are the particular phenomena which are common to all its varieties and combinations? 3. What is the order in which these phenomena occur in the series? 4. What are the organs, and what their states, upon which these phenomena depend? 5. What are the external signs of these internal states, or what are the indications by which their existence may be known? 6. What is the external noxious agent or agents, or the exciting cause or causes of the disease? 7. What is the particular remedy, or the particular combination of remedies which is best adapted to each state of each organ? When these questions can be clearly and perfectly answered, and not till then, we shall know the disease and its treatment.—p. 45.

What is fever? What is that combination of morbid events which enables all medical men at once to decide upon its existence, although, all have failed in assigning it a local habitation? Dr. Smith thinks that one cause of this failure is, that the attention has been confined too much to the observation and enumeration of symptoms, without inquiring sufficiently what was the condition of the internal organs which these symptoms indicated. Thus Booerhave having carefully collected all the symptoms which ever accompany fever, proceeded to strike out all such as, by their occasional absence, are inferred not to be necessary to its existence, until he reduced the whole list of essential symptoms to three; viz. chilliness, increased heat, and frequency of the pulse. Even these symptoms are denied, by later writers, to be necessary concomitants of fever; and even if they were, they afford of themselves no indications of treatment; and consequently it is necessary, if we would arrive at any satisfactory view of the subject, to push our investigations further.

Under these circumstances the following inquiries naturally present themselves: Are there any states of any organs that always exist in fever? Are these states constant? Are the organs affected constant, and can both be ascertained? The author's reply to these questions will give his theory upon the subject of fever.

The evidence is as complete as observation during life and inspection after death can make it, that a morbid change does take place in a certain number of organs in every case of fever, from the most trivial intermittent to the most alarming continued fever, from the mildest plague to the most malignant typhus: that at the two extremes of this scale, and at all the intermediate gradations of it, there are certain organs which are always affected, and that the affection in all is similar.

The identity of the organs is inferred from the indications they give

of disordered function during life: the identity of the affection is inferred from the similarity of morbid appearances which they exhibit on examination after death.

The organs affected are those which constitute the nervous system; those which constitute the circulating system, and those which constitute the systems of secretion and excretion. The spinal cord and the brain; the heart and the arteries, especially their capillary extremities; the secreting and the excreting organs, which in fact are composed, essentially, of the capillary extremities of the arteries; the secreting and the excreting extremities of these arteries, especially as they terminate in the external skin, and in the mucous membranes, which form the internal skin, this is the chain of diseased organs: derangement in the nervous and sensorial functions: derangement in the circulating function: derangement in the secretory and excretory functions, this is the circle of morbid actions.

There never was a case of fever in which all these organs and affections were not more or less in a morbid state: there never was a concurrence of this morbid state, in this complete circle of organs, without fever. The events which *invariably* concur in fever, then, are a certain deviation from the healthy state in the nervous and sensorial functions; a certain deviation from the healthy state in the circulating function; a certain deviation from the healthy state in the functions of secretion and excretion. A deviation from the healthy state in one circle of actions will not present the phenomena of fever; a deviation from the healthy state in two circles of action will not present the phenomena of fever: there must be a deviation in the three circles before fever can exist. Such then are the common phenomena of fever.

But it is not the invariable concurrence of a particular number of events that is alone sufficient to constitute fever: to this must be added invariableness of concurrence in a particular order. As will be shown in the proper place, there is complete and irresistible evidence that these events do occur in one invariable order. Derangement in the functions of secretion and excretion never comes first in the series: derangement in the nervous and sensorial functions never comes last in the series: derangement in the function of the circulation never comes either the first or the last in the series, but is always the second in succession.

The order of events then is first, derangement in the nervous and sensorial functions; this is the invariable antecedent: secondly, derangement in the circulating function; this is the invariable sequent: and thirdly, derangement in the secreting and excreting functions; this is the last result in the succession of morbid changes.

Supposing the matter of fact to be as is here stated, and the proof that it is so will be adduced hereafter, it is clear that we are in possession of the true characters of fever. We know the events: we know the order in which they occur: we know therefore what it is that constitutes the disease, and we know consequently what it is by which it is distinguished from every other malady. No other disease exhibits the same train of phenomena in the same order of succession. In inflammation some of the phenomena are the same: but the order in which they concur is not the same; and this affords a clear and universally applicable mark of distinction between fever and inflammation. In inflammation there is similar derangement in the secreting and excreting functions: there is also sometimes similar derangement in the circulating function: but the derangement in the nervous and sensorial

functions is seldom if ever similar: the derangement that does take place in these latter functions, while it is apparently different in kind, is certainly and invariably different in the order of its occurrence.—p. 60–63.

Admitting this to be the real condition of things, we may easily explain, from the different degrees of morbid affection in one or other of these organs, every possible variety of febrile action. Thus, at one time, the brain and spinal cord may be intensely affected: consequently the patient may be seized with violent pain in the limbs, with ferocious headache and delirium; or, on the contrary, the muscles of voluntary motion may be paralysed as in apoplexy. We may have a slighter degree of this affection, accompanied with severe pain in the head, back, and limbs, with a hot skin, a quick and strong pulse; or, instead of these, giddiness and stupor, a moderately warm or cool skin, with a frequent and feeble pulse. These two varieties are witnessed in the plague and in the common continued fever of Great Britain. We may again have that form of affection of the brain and spinal cord which is accompanied with great prostration of strength and derangement in the nervous and sensorial functions, with that general assemblage of symptoms which characterize typhus.

Under other circumstances, the disease may fall with peculiar violence upon the organs of secretion, especially upon those which belong to the digestive apparatus, and we have the different forms of fever, complicated with derangements of the liver, stomach, and intestines, which prevail in the malarious districts of hot climates.

In all these varieties of fever, these different sets of organs are invariably affected, although occasionally, the disease may invade one set so violently that we may be disposed to overlook the affection of the rest, yet a very little observation will convince us that the whole circle of organs enumerated by the author are involved in the disease.

It will easily be seen that in the comparative degree in which these organs are affected; in the shade and variety of the affection itself; in the previous state of the organs, influenced as

they are by habits of life and a thousand other contingencies; in the reaction of the organs upon one another; and in the influence of the treatment upon the whole assemblage of symptoms, we have abundant means of accounting for all the endless forms of fever.

Thus, although all these organs are invariably affected in every case of fever, yet in no two cases are all these organs affected in the same degree. Sometimes one system is more affected than another; sometimes one organ of one system, and these different degrees of affection, in these different systems, are variously combined and modified. How great then must necessarily be the diversity of symptoms presented by the different forms of fever! How incalculable are the varieties that result from difference of intensity alone. One degree of affection of the brain, for example, will occasion violent head-ache, constant watchfulness, great restlessness, a peculiar expression of the eye, and intolerance of light; in another there will be no head-ache, or none of which the patient will complain; there will be sleep though it be disturbed and unrefreshing; there will be no peculiar expression of the eye, and no intolerance of light. By one degree of affection the sensibility will be rendered preternaturally intense; by another it will be totally obliterated: one will produce violent delirium, another, only slight wandering, or unrefreshing slumber: one, violence requiring restraint; another, profound coma. In the circulating system the symptoms will alike vary. One degree will produce a quick, strong and hard pulse; another, a quick, small and feeble pulse, another, a slow and intermittent pulse. A similar diversity will be found in the temperature of the body: in one, the heat will be little changed; in another, it will be below the natural standard; in a third, it will be intense, and the organs of secretion and excretion will equally vary in the extent of their morbid changes.—p. 69–70.

The reader will now be prepared to appreciate the following remarks of the author upon the importance, in endeavoring to form a just view of fever, of looking beyond the symptoms to the internal states of disease of which they are the sign:

That no two cases of fever can ever be precisely the same, and that it must be vain to seek for the common phenomena of the disease in the external symptoms, must now be obvious: and why success can never attend the search after these common phenomena in such symptoms as "shivering, frequent pulse, heat," must be equally manifest. These as well as all other symptoms depend upon the state of the organs. But we have seen that in one degree of the same affection of the same series of organs there may be shivering; excited pulse; burning heat; while in another degree there may be no shivering, a slow pulse and a cold skin: so that from one and the same affection, differing only in the degree of its intensity, the symptoms may not only vary but be directly opposite. The proper object of pursuit in all these inquiries, therefore, is the real nature of the affection, and the symptoms are of

consequence only as they are indications of the existence of that affection. Symptoms are not *the* thing in which observation should terminate, but signs of the thing without the knowledge of which, in every individual case that may come under his care, the practitioner ought never to be at rest, and to the discovery of which they serve as guides.—p. 70–71.

Dr. S. objects to the general division of fevers into idiopathic and symptomatic. In his view, as we have already seen, the fever of inflammation is a very different thing from true fever—accompanied with a different train and order of symptoms, and, therefore, requiring a different classification and name.

The division of idiopathic fevers again into intermittent and continued, he objects to, as founded upon a fact in the highest degree trivial. The general division of continued fever into synocha, synochus, and typhus, he asserts is founded upon no principle which could lead to the formation of the assemblages of symptoms which are given as characteristic of these diseases, or to their nomenclature when thus assembled; while, at the same time, the symptoms thus enumerated do not constitute the disease, nor convey any adequate conception of its nature.

A further objection which appears to us in every respect valid, is drawn from the exclusion of the exanthemata from the order of fevers. These diseases, as the author very justly asserts, however they may be modified by the cutaneous affection, are essentially fevers, exhibiting the same series and order of morbid derangements, and the same assemblage of symptoms. It is doubtless proper that these varieties should be discriminated and named, but this should be done with a distinct understanding that they constitute merely varieties of one great form of disease, distinguished by circumstances which modify its features without changing its identity.

This mode of viewing fever as one great and extensive malady never differing in nature, but in every two cases differing in intensity, and giving rise by these differences in intensity to various forms of disease, thus affords a principle of arrangement applicable to all those various forms, which, while it is at once simple and comprehensive, is at the same time in the highest degree practical. It directly leads the mind to the observation of the real, the important differences that exist or that may arise; those differences which must influence and guide the treatment, if it be not altogether blind, and in the worst sense of the

term empirical. This principle might easily be extended, and I think with advantage, so as to comprehend the Exanthemata, and all the forms of fever which have hitherto been known to exist, or which can arise. Scarlet fever, for example, is continued fever attended with a peculiar eruption upon the skin: at one time it occurs in a mild, at another in an exceedingly severe form: the assemblage of symptoms in the first are precisely those which it is intended to comprehend under the term synochus: the assemblage of symptoms in the second are those which are designated by the term typhus: thus scarlet fever exhibits at one time the synochoid, and at another the typhoid type; the first being what is commonly termed scarlatina benigna, the second scarlatina maligna; and each type is capable of existing in two degrees of severity, one of which may be conveniently distinguished by the term mitior, and the other by that of gravior.

In like manner small-pox is a fever attended with a peculiar eruption upon the skin, which eruption modifies the disease in a very remarkable manner and gives it a history and progress peculiarly its own, but it is as much a genuine fever as typhus, and ought no more to be taken out of this class on account of the eruption upon the skin, than scarlatina, which likewise modifies, in a very considerable degree, the whole train of febrile symptoms, and is attended with a peculiar condition of some exceedingly important internal organs. Small-pox, like all the diseases of this class, occurs in two widely different forms; the one mild, the other intensely severe: in the first the concourse of symptoms are precisely those of the synochoid, in the second of the typhoid type. And the same I am satisfied is true of the plague, of the yellow fever, and of all the different forms which this great disease, of many aspects and names, but of one uniform and unchanging nature, presents.—p. 85–87.

We cannot agree with our author as to the perfect futility of the distinction of fevers into intermittent and continued. It is true that we are unable to trace the connexion between the cold and hot stage of fevers; it may be equally true that the condition of the internal organs upon which the difference depends, is unknown to us, but when we see that these conditions are as uniform as the cause of the fever and the climate in which it occurs, and that they are not accidental symptoms, but founded upon different states of the system, and requiring a radical difference of treatment, we cannot say that the distinction is without foundation. Nor can it be said that the type appears to be determined by the intensity of the disease, since the most violent forms of yellow fever still preserve their intermittent character, while the milder forms of intermittent fever often approach to the continued type without exhibiting any peculiar malignity.

After this general outline, the author enters into a general

history of the different forms of continued fever, in which he attempts to prove, by an analysis of the symptoms, the truth of the positions he has laid down.

In the milder forms of continued fever (synochus mitior, in the language of Dr. S.) the first symptom of the appproaching disease is "loss of mental energy, indistinctness, and consequent confusion in the trains of ideas, and inability to attend to their relations." Connected with this is "loss of energy in the muscles of voluntary motion," evinced by lassitude and muscular debility. The next symptom in the order of succession is still more characteristic, and is denominated by the author "febrile uneasiness"—that peculiar feeling of restlessness and anxiety which so frequently precedes a febrile attack. These symptoms are followed by pain in the back or loins, and then in the limbs. The surface of the body now begins to manifest its participation in this general debility "by its sensitiveness to the agents by which it is surrounded, and by its inability to resist their influence," and chilliness and shivering, symptoms not depending upon cold, but upon diseased sensation; since it exists in a warm room, and when the heat of the body is above the healthy standard.

These symptoms Dr. S. thinks are clearly referrible to derangement of the function of the spinal cord and brain. Very soon the vascular system and the respiration begin to be affected, though as yet, it is an affection which proves them to participate in the debility which pervades the rest of the system—the pulse being quick and weak, and the respisation short and hurried.

After an interval, longer or shorter according to circumstances, the vascular system partakes in the disease in a different manner, the pulse becomes more frequent and stronger, and the skin, which was before cold, becomes preternaturally hot. As soon as this change takes place in the circulation, the functions of secretion and excretion become deranged; the tongue is covered with fur; thirst comes on; the secretions of the liver and of the whole alimentary canal are vitiated; the urine is altered in appearance; and the skin is dry and parched.

At this period, then, the fever is fully formed; the series of morbid

phenomena is complete: any thing more that happens is referrible to degree and to duration, and must be the result of one or other of these circumstances, or of their combined operation. And we now see that the organs affected, constitute precisely that system of organs which has been described as forming the febrile circle: that the symptoms which denote the fever are just the symptoms which indicate a derangement in the several functions performed by these organs; and that the order in which they become successively involved is exactly that which has been assigned.—p. 97.

The fever being now fully formed, there is as yet no local inflammation. It does, however, frequently, perhaps generally, supervene, and to its presence the author attributes the difference between the milder and the more severe grades of fever. The organs thus affected are the spinal cord, the brain, and their membranes, the mucous membrane of the lungs, and the mucous membrane of the intestines. From the modifications produced by the affection of these organs and tissues, all the different varieties and innumerable symptoms of fever are produced; and, if so, it becomes a matter of great importance to ascertain the symptoms by which these internal derangements are indicated. From the seat of the local affections, Dr. S. divides continued fever in the following manner: *Synochus with cerebral affection—Synochus with abdominal affection—Synochus with thoracic affection*,—and lastly, there is a *mixed form* of the disease in which all these organs are simultaneously affected. Of the prominent symptoms of each of these we shall give a short abstract.

1. The most important symptom of cerebral affection is pain. Pain, however, although generally present, is not uniformly severe, and it is not uncommon for the most unequivocal and extensive changes of structure to take place without the pain having been so violent as to attract much attention.

2. In some cases the pain is absent entirely. Giddiness is then the substitute.

Now and then no pain whatever is felt. Question the patient as much as you please, and he will tell you that he never has felt any pain. In this case giddiness is the substitute. Giddiness in the commencement, and in the early state of fever, is as certain a sign of cerebral affection as pain. Striking illustrations of this are afforded by several cases detailed in the pathology; by consulting which, the reader will

see that precisely the same morbid changes take place in the structure of the brain, although nothing but giddiness be complained of, as occur in those which are attended with the acutest pain. The practitioner will therefore fall into a fatal error who is seduced into security because pain is absent; and who neglects the remedies proper for inflammation of the brain, because the patient complains only of giddiness. If giddiness be combined with pain, or alternate with it, which is not uncommon, the giddiness being slight if the pain be severe, and the pain being slight if the giddiness be distressing, it indicates a more severe affection than if either exist alone.—p. 110.

3. A dull and heavy expression of the eye. The conjunctiva sometimes becomes brighter and more glistening than natural, or its vessels become injected.

4. There is, at the same time, an increase of general sensibility, particular in the senses of sight and hearing.

5. The countenance is indicative of suffering; though, without an expression of anxiety at the commencement of the disease.

6. So long as the pain in the head, giddiness, and increased sensibility continue, there is *sleeplessness* and restlessness.

7. To these symptoms delirium is added, sometimes as the forerunner of a favorable change, more frequently, as an indication of the increasing violence of the disease.

8. The pulse, thus far, may not materially be altered; neither does the state of the tongue or of the evacuations materially differ from what is witnessed in the milder forms of the disease.

If the disease proceeds unfavorably, after some days, an entirely new train of symptoms sets in.

1. The pain in the head or the giddiness diminishes, often disappears altogether; or if any uneasiness remain, it is a sense of dulness and heaviness. The period at which this change takes place is about the 10th day, or earlier, if the attack be violent.

2. Simultaneously with this there is diminution of the general sensibility; the mind becomes dull; and the eyes injected.

3. Delirium at this time supervenes, or if this be absent, there is moaning and incoherent muttering during the short and disturbed slumbers of the patient.

4. The pulse now becomes increased in frequency, and at the same time, becomes weaker.

5. And lastly, signs of disease in the chest and abdomen begin to appear; a case purely cerebral, from the commencement to the termination, being rarely met with.

These symptoms are followed, towards the termination, with those undisguised marks of cerebral congestion with which every medical reader is familiar. If the disease of the brain be more acute, the general train of the symptoms is very similar, except that they succeed each other more rapidly; and, if the disease be not arrested, the fatal termination takes place more speedily. Among the unfavorable symptoms in this form of disease the author mentions intense pain in the head or back with a *slow* or *intermitting pulse*, and frequent sighing. Among the favorable symptoms, an easy quiet slumber, which very generally is the harbinger of immediate convalescence.

The second form of fever is that combined with *Thoracic Affection*. Upon this affection the author remarks, that although a very severe form of fever may be sometimes accompanied with a slight degree of thoracic disease, yet "whenever the thoracic symptoms are sufficiently intense to become prominent, and especially when they occur early, or attend on the commencement of fever, they invariably and very considerably aggravate the general febrile symptoms." The symptoms of this affection we shall leave the author to describe in his own language:

> Pain in the chest, sometimes severe, sometimes only slight; sense of stricture or dyspnœa; inability to expand the chest by a full inspiration without pain or uneasiness; cough frequently aggravating the pain; sometimes dry, sometimes accompanied with frothy mucous expectoration. Respiration sometimes slow and heavy, at other times, on the contrary, short and quick; never natural: perhaps the physician may detect thoracic disease in the more obscure, and measure its extent in the more obvious cases, by observing the manner in which the patient breathes, better than by any other single means. The altered respiration is very frequently accompanied with that peculiar noise in breathing which is termed "mucous rattle."—p. 133.

This condition of the lungs very generally brings on stupor or low delirium at an earlier period than it would otherwise appear. Violent delirium, he asserts, is seldom, if ever, found in combination with thoracic disease.

The third variety, or fever combined with *Abdominal Affection.* Abdominal disease in fever exists under two forms. It may come on at the commencement, and give early indications of its presence, or it may come on later, and then, although the affection is equally severe, it will be more difficult of detection.

1. The first symptom is nausea, with retching or vomiting. These symptoms are generally enumerated among the ordinary attendants on fever; but, as they are rarely present in a case decidedly cerebral or thoracic, the author considers them as evidence of an abdominal affection more severe than usual.

2. At the commencement, the bowels are generally constipated, but in a day or two looseness comes on. The concurrence of this symptom with the preceding is an infallible indication of the presence of an abdominal affection, that is likely to render the case formidable.

3. Pain, of which the patient complains spontaneously. This however is by no means an invariable attendant. Sensibility of the epigastrium to pressure is a much more frequent attendant. The pain which arises spontaneously ceases after a few days, although there may still exist extreme sensibility upon pressure, upon which fact the author makes the following remarks, which are not unimportant in considering the pathology of fevers.

There is thus a remarkable coincidence between the progress of the symptoms in the abdomen and in the head. We have seen that however intense the cerebral affection, the pain of the head which accompanies it diminishes after a certain time, and in a day or two after it has begun to diminish, ceases altogether. In like manner the pain which ushers in an acute abdominal affection diminishes after a certain time, and soon wholly disappears. After this period, therefore, we should have no more indications of abdominal than we have of cerebral pain were the intestines, like the brain, enclosed in a bony case. When an organ can be touched, it gives us an additional and an invaluable means of ascertaining its morbid condition: and this is one reason why that condition is commonly so much more certainly known in surgical than in medical diseases. What the result would be, could we press the brain as we can the abdomen, after its sensibility is so much diminished as to cease to occasion pain, we do not know; but it would be a bad use indeed to make of the additional means afforded us of ascertaining the condition of the intestines, were we to allow the additional information we thus gain, to obscure our perception of the perfect analogy there is in the progress of both affections. We know that as the disease advances in both, the pain ceases; but, in the one case, we have the means of ascertaining that there still remains preternatural

tenderness on pressure, as in ordinary inflammation, which we are without the means of discovering in the other: still the important practical fact afforded by the history of both is the same, that disease having reached a certain point, the pain diminishes; and having advanced still further entirely disappears.—p. 143-4.

4. The appearances of the tongue.

Together with these decisive signs, which alone are abundantly sufficient to enable us to ascertain the presence of the affection, we have an additional and an exceedingly valuable guide in the peculiar state of the tongue. In these abdominal cases, the tongue is preternaturally red. Sometimes this increased redness is of a bright and vivid color, and pervades the whole tongue; at others, it is confined to the edges or to the tip, and it is usually remarkably apparent in the latter. While thus vividly red, the body is often loaded with fur; the color of the fur is often of a dirty white or greyish color; but, perhaps, while the edges and the tip are thus intensely red, the most usual color observed on its body is that of a dirty yellow. In these cases, the papillæ appear much enlarged, and are seen prominent through the fur, vividly red. In this condition of the tongue it always remains moist for some time, and it is not attended with urgent thirst; but, as the intestinal disease advances, the tongue gradually becomes less vividly red and more dry, and as these changes go on, the lips and teeth often become sordid.

Instead of being from the commencement of a vivid redness, the color of the tongue, in other cases, is of a darker and duller tint; there is less fur upon the body, and that which covers it is of a dirtier and darker tinge; this state of the tongue is always attended with greater thirst: it is apt to become more and sooner dry, and, at the same time, the lips and teeth become more and sooner sordid.—p. 145.

5. The pulse in this affection exhibits no very striking or distinctive character—its common range being from 80 to 100, beyond which it seldom rises until near the termination of the disease.

6. After a time the purging ceases; though without a favorable change in the general symptoms, this is not to be considered as an indication of approaching convalescence.

The fourth variety of fever is founded upon the complication of disease in all the organs above enumerated. Whenever, Dr. S. remarks, a severe case of fever occurs without any striking prominence of affection in any organ, and when, on examination, there are found indications of severe disease in all, a very formidable case is certainly to be expected. Upon this subject we extract the following remarks, which will go far to counteract the very prevalent error that severe disease is not likely to take place in two different organs at the same time.

Whatever be the number of organs simultaneously affected, the na-

ture of the affection in each is always the same, and is not in the slightest degree changed by the complication. Disease in the brain is the same, whether the brain alone be prominently affected, or the brain and intestines, or the brain, the intestines and the lungs. Each organ is liable to its own specific disease, and that disease goes on with the utmost regularity, whether it be the sole organ so far diseased as to suffer a change in its structure, or whether many be simultaneously affected in the same manner.

In like manner the symptoms, when any symptoms are present, are essentially the same, whether the disease exist alone, or whether it be complicated with several others. The symptoms of inflammation of the brain are the same, whether cerebral inflammation alone be present, or whether it be complicated with inflammation and ulceration of the mucous membrane of the intestines. And the symptoms of inflammation and ulceration of the mucous membrane of the intestines are the same, when any symptoms are present, whether these affections exist alone, or whether they are complicated with cerebral inflammation. The occasional absence of symptoms in the subordinate organs, overwhelmed by the preponderence of affection in the principal is a proof that they are subordinate. It would, therefore, be useless to detail the symptoms which occur in the mixed cases, since they must only be a repetition of those which have been already enumerated. Their concurrence in individual complications, and the modifications which they undergo from such particular combinations, will be best understood from the study of the cases.—p. 156-7.

Chapter IV. is devoted to the consideration of typhus fever. Dr. S. remarks that although the symptoms of typhus and synochus are so strikingly different, yet the affection of the organs is the same both in their nature and succession. We shall merely notice some of the prominent features by which typhus is characterized.

There can be no question that, from the very first commencement of the attack, as well as through the whole course of the disease, the prostration of strength, both physical and mental, is greater in typhus than it is in synochus.

The chilliness is, upon the whole, greater and longer-continued than in synochus: yet there is less constantly shivering, and the heat, when it succeeds this state of chilliness, is seldom as great as in the latter; while there are cases in which the heat never exceeds the natural standard.

The febrile uneasiness is greater; the restlessness is incessant; the face is pallid; the features are shrunk; the expression of the countenance is most peculiar; it is strikingly indicative of weakness and suffering; the experienced eye can tell at a single glance, even at this early period, to which of the two types that countenance belongs. The pulse is always weaker and more rapid than in the corresponding stage of synochus.

There are cases in which the pain of the head is equally severe as in synochus: but this may be justly considered as rare. In general it is

less acute. Dulness, confusion, stupor, giddiness, are more common than severe pain, and are often the substitutes for it. Though some degree of pain be generally present, yet it is by no means uncommon for one or more of these sensations to occupy its place completely.

When pain is present it diminishes sooner and disappears more completely than in synochus: when it is not present, the advancement of the disease is indicated by increasing insensibility, and by the rapid transition of dulness or confusion into a state of stupor approaching to coma. The eye is already muddy, and it soon becomes injected and suffused.

There is little or no sleep; the restlessness is great; there may be no violence; but there is abundance of inquietude.

Delirium is more constantly present than in synochus; and when it comes it comes earlier: its presence is not unusual as early as the sixth or seventh day; and it may appear still sooner, but that is rare. It consists of low muttering incoherence rather than of loud and violent talkativeness; and is expressed in moaning rather than screaming.

Like delirium, muscular tremor is much more constantly present in typhus than in synochus; and its relation to delirium is so close that it is sometimes observed to supervene on the very same day; frequently on the day following; and, if it appear at all, it is seldom longer absent than the third.

The respiration is often not very obviously affected, but if it be attentively observed it will usually be found to be shorter and quicker than natural.

The tongue is always foul on the first or second day; it seldom continues moist longer than three or four days; it is often quite dry as early as the fourth, especially on the body and at the root.

During its progress, erysipelas, first appearing on the face, then extending over the scalp, and often down the shoulders and back, is very apt to occur. Excoriation on the back and hips often form sloughing sores of great malignity and extent, while enlargement, inflammation and suppuration of glands situated in different parts of the body frequently appear.

Typhus terminates much earlier, whether favorably or unfavorably, than synochus.—p. 162–7.

Dr. S. vehemently objects to the opinion which attributes the prostration of strength in the violent forms of typhus, to debility.

It is remarkable, and it is highly characteristic of these intense forms of disease, that their pathology exhibits a striking contrast to that of the less severe affections. No morbid appearances are visible in the organs which seem capable of accounting for death. There are signs of vascularity; the vessels are turgid with blood, and consequently the organs on which they are spent are in a state of congestion. But they seldom if ever exhibit any real appearance of inflammation, and still less do they contain any true inflammatory product. Why! Not on account of debility; but because the force of the disease is so great as to overwhelm the powers of life at the first onset, allowing even of no reaction, and much less of that continued excitement which is part and parcel of the inflammatory state, and which is indispensable to an inflammatory product. Reduce the intensity of the disease a little, bring it just within the limit that is compatible with the continuance of

life for a given time, and then the products of inflammation at once appear in the greatest possible purity, variety, and extent.—p. 177-8.

An opinion true, perhaps in general, but to be received with very great qualifications. Even upon his own principles, the affection of the nervous system may be so violent as to paralyze the organs at once, and interrupt their functions. If, therefore, to this influence be added exposure, fatigue, bad living, anxiety, and confined air, why may not a form of fever prevail whose characteristic feature shall be debility rather than inflammation?

We shall close this part of the subject with a brief account of some of the most prominent appearances after death.

Morbid appearances in the Head.—Of the membranes of the brain, the arachnoid is the most constantly diseased. It is either more vascular than natural, or is altered in structure, being thickened and opake, and when in this condition generally has a gelatinous fluid effused beneath it. It is also often adherent to the membranes, both above and below. The dura mater is affected in a similar manner, although less constantly. The pia mater is seldom changed in structure, though it is generally preternaturally vascular. Of the changes which take place in the substance of the brain we quote the following:

The brain itself is seldom or never in a healthy condition; the morbid changes to be distinguished in it differ greatly in degree in different cases, but still, in almost every case, some morbid change is to be discerned. These changes consist of an altered state of its substance, or of its cavities, or of both. The most usual change apparent in its substance is a higher degree of vascularity than natural. This increased vascularity is sometimes confined to the surface; sometimes it is more manifest deep in its substance; and, while common to both, it may exhibit different degrees of intensity in either. When on the surface, this preternatural vascularity is denoted by a greater fulness of the vessels, and, apparently by an increase in the number of bloody points, which are rendered visible by an incision with the scalpel. And in both situations it may exist in all degrees, from a faint blush to a deep and vivid redness. The substance itself is sometimes softer, sometimes firmer than natural. The softening differs in degree and in extent. Sometimes the entire cerebrum is manifestly and considerably softer than natural; at other times, only particular portions of it are found in this softened state. Now and then, but very rarely, abscess is discovered within its substance. It is remarkable that the cerebellum is always considerably softer than the cerebrum: whence these two portions of the organ are often observed to be in opposite states, the cerebrum being frequently preternaturally firm, and the cerebellum being

almost always softer than natural. The pituitary gland also is very constantly softened, and often in a state of suppuration. When the cerebellum is preternaturally firm, the firmness is usually general.

It is observable that the two morbid conditions now described, that of excessive vascularity and that of increased secretion, are never co-existent. If the vessels of the brain and its membranes are loaded with blood, there is little or no fluid within the former or between the latter: if, on the contrary, the effusion be great, there is little or no appearance of vascularity. Effusion is the effect and the termination of vascularity: it is the ultimate result of vascular action, and the effect having ensued, the cause ceases to be apparent.

The substance of the spinal cord is seldom changed, either in vascularity or in consistence: the morbid changes which this organ undergoes have hitherto been observed only in the membrane that invests it, which, as has been just stated, is not only highly vascular, but likewise contains a much larger quantity of fluid than natural.—p. 195–6.

Morbid appearances in the Thorax.—The principal morbid appearances to be observed here are in the lining membrane of bronchi, consisting of a preternatural redness, specific and uniform, as much darker than what is observed in ordinary inflammation as is the difference between venous and arterial blood.

This darkness of color apparent in the bronchial lining, increases in degree as the tubes of the bronchi diminish in size: while it may be only just discernible in the large trunks, the color may be nearly black in the minute branches. This change in the natural color of the membrane is indicative, not only of an increase in its vascularity, but of alteration in its structure. It is almost always attended with a preternatural thickening of its substance, as is demonstrated by cutting through the tube and reflecting the membrane. The tubes themselves contain more or less fluid, which consists of mucus, mixed with pus. Analagous to what has been stated with regard to the vascularity of the brain and to its secretions, when the quantity of secretion contained in the bronchial tubes is great, the degree of vascularity apparent in the membrane is lessened.—p. 197.

The description of the morbid appearances exhibited in the air passages after death from scarlatina, a disease that has of late been very prevalent and fatal in many parts of this country will not be uninteresting to our readers.

In scarlet fever, the morbid changes are somewhat different. The mucous membrane covering the trachea, the larynx with its cartilages, the amygdalæ and the soft palate is inflamed; the redness is of a brighter and more vivid color than that which has been stated to be characteristic of continued fever without an eruption: it is similar to the characteristic color of the scarlatina tongue. But what is very remarkable, and what appears to justify the view we have taken of scarlatina and the division we have suggested of its types, when the cases are

severe, the color of the mucous membrane becomes much darker, the deepness of the tinge increasing with the severity of the affection, until, at length, the color closely resembles that which is peculiar to ordinary fever.

As in continued fever without an eruption, so in scarlatina, the increased vascularity of the mucous membrane is accompanied with a preternatural thickening of its substance. In scarlet fever, that portion of it which covers the epiglottis, the rima glottidis, and the arytænoid cartilages, is especially found in this diseased condition. When this inflammation and thickening passes into the state of ulceration, which it often does, the arytænoid cartilages are the special seat of this process, although the ulceration often extends to the amygdalæ, and sometimes to the root of the tongue.

When in every other respect healthy, the substance of the lungs in fever is so constantly found either engorged with blood or infiltrated with serum, that these changes would seem to form essential parts of the morbid phenomena.—p. 197–8.

Morbid appearances in the Abdomen.—The great importance which has been attributed to inflammation of the mucous membrane of the stomach and intestines, as the cause of fever, will justify an extended extract upon the subject.

On opening the cavity of the abdomen all the viscera contained in it appear, in general, more vascular than natural, and invariably of a darker color than in the state of health. Several of the organs are affected in a uniform and peculiar manner, but that which is by far the most constantly diseased is the mucous membrane of the small intestines; and especially that portion of it which lines the ilium and the cæcum.

The varieties of disease exhibited by this membrane may be comprehended under three, namely, vascularity, thickening, and ulceration.

In all cases increased vascularity is the first stage of disease: in a great proportion of cases this increased vascularity is confined to the inferior extremity of the small intestines, which is often distinctly inflamed when not the slightest deviation from healthy structure is traceable in any other part of the canal.

The second stage of disease consists in thickening of the membrane, or in deposition of matter beneath, or in both. Preternatural thickening of the membrane is often of very considerable extent: deposition of matter beneath it appears to be confined to the situations of the mucous glands. These glands are found in all states and stages of disease from the least to the greatest enlargement, and from the mere abrasion of their surface to the entire ulceration of their substance.

The third stage is that of ulceration, which may supervene when the membrane is affected in either of the modes just described; but the ulcer will not be the same in both cases: in each it will have a different and a distinctive character. If ulceration take place while the mucous coat is in a state of simple vascularity, the ulcer will in general be extensive but superficial; its surface will present a smooth appearance, and its margin will be regular and defined: if, on the contrary, it occur after thickening of the membrane or enlargement of its glands its characters will be just the reverse: it will be less extensive, but

more deep, because it must penetrate a mass of adventitious matter before it can reach the other coats; and, for the same reason, its margin will be more elevated and its surface more ragged. It is in this form of ulcer that perforation of the intestine generally occurs; in which case the mucous and muscular coats alone are ulcerated: the peritoneal gives way from gangrene.

Whenever the mucous membrane is ulcerated, whatever be the form of the ulcer, the corresponding portion of the peritoneal coat is more vascular than natural; and perforation must be attended with inevitable death, on account of the extensive and intense peritonitis excited by the escape of fæces into the peritoneal cavity.

Proportioned to the extent and degree of these changes in the intestine are, inflammation, enlargement, induration and suppuration of the mesenteric glands: and invariably those glands which are embedded in that portion of the mesentery attached to the affected intestine, are the most diseased.—p. 199–202.

It has been our intention to give a fair view of the author's opinions upon fever, with such of his illustrations as would enable our readers to derive practical benefit from the facts which the author has advanced in support of his speculations. We shall conclude the subject with the following summary which he gives of his doctrine:

In conclusion, then, the doctrine of fever which appears to approximate most nearly to the truth, may be summed up in a few words. The immediate cause of fever is a poison, which operates primarily and specifically upon the brain and the spinal cord. The diseased state into which these organs are brought by the operation of this poison, deprives them of the power of communicating to the system that supply of stimulus (nervous and sensorial influence) which is requisite to maintain the functions of the economy in the state of health. The organs, the seats of the functions, deprived of their supply of nervous influence, become deranged, the derangement in each taking place in a fixed order, and in a determinate manner. Subsequently to the nervous and the sensorial, the organs the next to suffer are those of the circulation; then those of respiration; and, ultimately, those which belong to secretion and excretion. The condition of the nervous system which produces this derangement in this circle of organs, occasions further, in that portion of the circulating system which consists of the capillary blood-vessels, that peculiar state which constitutes inflammation: hence inflammation is almost always established in one or more of the organs comprehended in the febrile circle, and sometimes in all of them. The peculiar and primary affection of the nervous system, which is here assigned as the cause of inflammation, does not become identical with inflammation, but superadds the morbid condition of inflammation to its own; does not lapse into or terminate in the inflammatory state, but accompanies it, and by this combination modifies in a peculiar manner the inflammatory process.—p. 358–9.

Such are the author's views upon the subject of fever. Are

they satisfactory? Has he arrived at any thing certain and definite as to the order and succession of the diseased action? We think not. Upon what authority does he attribute the primary symptoms to the brain and spinal cord? Admitting that these organs are effected, what reason has he for asserting that their affection is not of the same nature, and proceeding from the same causes with that of the organs whose symptoms are exposed to view? The organs of the nervous system are supplied with vessels and tissues like the other organs; if the debility of the latter is to be traced to derangement of the former, to what is the derangement of the former to be attributed? The poison which produces fever acts upon the nervous system; may it not act sympathetically upon the branches, as well as upon the trunk, and thus simultaneously affect the whole?

Let us enquire a little into the true condition of things. Is it true that the affection of the secretions is the last in the train of deranged action? An individual complains of the listlessness, languor, debility, &c., which indicate the approach of fever. What is the cause of these symptoms? Dr. S. says that the supply of nervous energy is cut off by an affection of the brain—others say that the capillary circulation is deranged and the secretions are consequently interrupted. They appeal to the furred tongue, the pale alvine evacuations, the loss of appetite, &c. What is the practice? An emetic or a mercurial cathartic is given; the liver resumes its functions, the appetite returns, the skin resumes the glow of health, and the vigor of the body returns at once. Will the author pretend to say that the medicine acts by immediately restoring nervous energy?

We of course estimate his theory but lightly. This, however, does not detract from the value of the great body of practical information which he has so patiently collected and so judiciously arranged. On the contrary, if his theory has added any thing to this part of the work, we could easily forgive its defects, even were they much greater than they are.

With a few remarks upon the course of treatment pursued by these gentlemen, we shall close this article.

The simple forms of fever, Dr. S. remarks, require little or

no treatment; but as the severer forms derive their danger, in his opinion, from local inflammation, bleeding is his sheet anchor, and is to be resorted to the extent of reducing the inflammation. The amount necessary to be taken, however, will be less than in pure inflammation.

> Mere relief of inflammation is nothing; to render a severe inflammation a less severe inflammation is to do nothing; because the less severe inflammation may be fatal just as certainly as the more severe: the inflammation must be subdued, or the case, if not wholly lost, becomes dangerous and doubtful.
>
> The abstraction of blood must be carried to the extent of subduing the inflammation: there is no other limit to the quantity to be taken but that which is adequate to subdue the inflammation. To attempt to measure the quantity by drachms or ounces is wholly vain; because, if the remedy be properly employed, the quantity will vary in every individual case.
>
> The tendency of the preceding observations is not to countenance frequent and large abstractions of blood in fever, but to save the blood of the patient, by taking the due quantity at the proper time. Smaller bleedings will subdue febrile than pure inflammation. Febrile inflammation, as has been so often stated, is a modified inflammation, the modification consisting in less activity in the vascular system and greater depression in the nervous. Whence a moderate bleeding will make an impression upon febrile inflammation which can be equalled in pure inflammation only by a large bleeding. He who takes away sixteen ounces of blood in fever adopts a bolder and more decisive practice, and brings more effectual relief to his patient, than he who abstracts thirty ounces of blood in some other forms of inflammation; and he who takes away six ounces of blood in one febrile case, does more than he who takes away sixteen in another. But the question never can be whether the bleeding should be small or large: that is nothing. The thing to be considered is the condition of the organs, the state of the system; not the ounces of blood to be taken, nor the number of periods at which it is to be removed. Abstract blood to the subdual of the inflammation—that is the rule; abstract blood at the very commencement of the inflammatory action; if you are in time to do it, at the very commencement of the febrile excitement.—p. 395–7.

When this is effected the physician has nothing to do but look on and see the patient get well. To purgatives he attaches very little importance beyond the simple operation of procuring three or four daily evacuations by rhubarb or castor oil, with two or three grains of calomel every other day.

As an adjuvant to bleeding where it fails to relieve the brain, they recommend the application of cold water to the head in the form of the "cold dash."

The mode of applying this remedy has been already described

in the present number of this Journal, by Dr. A. Judkins. Dr. S. asserts that no degree of inflammation can withstand the efficacy of this application; under its use the pain subsides, the countenance becomes pale, and the pulse is reduced to a mere thread. It is not intended of course to supercede the use of subsidiary measures for the reduction of inflammation, such as blood-letting, purgatives, &c. It will be obvious also that so powerful a remedy must be used with some regard to discretion.

This is represented as being infinitely superior to the application of ice; and, it is said, that three or four repetitions will commonly suffice to subdue the most intense cerebral affection.

The following remarks upon the use of tartar emetic in the treatment of fever combined with affections of the lungs will be considered novel; this medicine, in large doses, having been principally confined to the treatment of *inflammation* of the lungs.

> Fortunately, there is a remedy nearly as powerful and efficacious in intense thoracic affection, as blood-letting and the cold dash are in the cerebral. In the severe bronchial affection of fever, blood-letting is of little avail. It seems to have scarcely any control over the peculiar affection of the lining membrane of the bronchial tubes, or even over the inflammation of the substance of the lung, which so often accompanies the intense form of thoracic disease. It weakens the patient without making a decided impression upon the disease. Laennec states that the pathology of pneumonia could scarcely be learnt under his practice; for that he treated the disease, not by blood-letting, but by tartar emetic; and that all his patients recovered. I thought this one of the exaggerated statements in which medical writers sometimes delight to indulge; but it immediately occurred to me that this remedy might prove exceedingly efficacious in the bronchitis of fever. Its efficacy has surpassed my expectation. It seldom fails if exhibited with promptitude and decision. The mode in which it is most efficiently administered, is in doses of two grains, dissolved in an ounce of water, and repeated every second, third, fourth, or sixth hour, according to the severity of the case.—p. 415–6.

The last chapter of Dr. Smith's work is devoted to the subject of *relapses* in fever. A large proportion of those who die in consequence of fever, perish from imprudence or inattention after the danger of the disease, under judicious management, is past. This fatal result, Dr. S. asserts, takes place generally from rising out of bed to early, or from the injudicious use of animal food. After a severe attack of fever, patients, weary

of their long confinement, are seldom aware of the extent of the debility which pervades every part of their system; and, under the excitement of cheerful society, are insensible to fatigue until irreparable and fatal injury results from exertion. The practitioner cannot be too cautious in the directions he gives respecting the exercise of a convalescent patient, nor should he be permitted to shelter himself from censure when unpleasant consequences result, by attributing them to the imprudence of the patient.

The second most frequent cause of relapse is imprudence in diet, especially, in the use of animal food. The ravenous appetite which generally attends convalescence from fever renders a great deal of self-denial necessary to prevent the patient from injuring himself by excess. Unfortunately the prejudice of the public respecting the necessity of an abundant supply of nutritious food to recruit the wasted energies of the system so far coincide with the calls of appetite, as to render the prudent advice of the physician too often unavailing.

Dr. S. enumerates three cases in which the danger of relapse is peculiarly imminent. 1. When the disease has run its course with great violence. 2. When the disease has been overcome by copious blood-letting. Convalescence has thus been brought about which will be permanent, provided, proper prudence and precaution are observed, but such a state of irritability has been induced, that the most unhappy consequences result from the least imprudence. 3. When from the presence of irritation, or unsubdued inflammation, the convalescence is tedious and protracted. Under these circumstances, therefore, the practitioner should be doubly on his guard, and not consider that his duty has been discharged, without prescribing a strict system of diet and regimen, and faithfully warning the patient and his friends of the consequences of departing from it. F.

ART. V.—*Pathological and Practical Researches on Diseases of the Brain and the Spinal Cord.* By JOHN ABERCROMBIE, M. D., Fellow of the Royal College of Physicians of Edinburgh, &c., and first Physician to his Majesty in Scotland. Philadelphia: Carey & Lea.—pp. 450, 8vo.

In comparing the science of Medicine as it exists at present, with that which has been handed down from the fathers of the profession, we are forcibly struck with the prominent position which pathological anatomy now occupies in its records. Instead of a record of symptoms, faithfully, indeed, and accurately observed, but unintelligible from ignorance of their causes, the scalpel of the anatomist by investigating the derangement of structure upon which they depend has erected a system which, in philosophical accuracy, yields to few of the other sciences. We pretend not to say that it offers a solution to every problem which the ingenuity of man may propose to it. Nature has chosen to invest her ultimate operations with a veil of secrecy; and, in every science, therefore, insurmountable obstacles must eventually obstruct the progress of the bold enquirer. Medicine, too, has its difficulties—difficulties, however, which have been overrated by those cynical objectors who find in the uncertainty of medicine an unfailing source of mirth and ridicule, without reflecting that the same uncertainty pervades every other department of human knowledge.

Among the various forms of disease which have been illustrated by pathological anatomy, there is none, perhaps, in which the improvement is more striking than in the diseases of the brain.

Dr. Abercrombie, the author of this volume, has at different times offered to the profession several works of a pathological and practical nature, which are enriched, not less by the fruits of extensive original observation, than by a judicious and labo-

rious appropriation of the investigations of others. Of these, none is more valuable than the volume now under consideration.

The first part of the work is devoted to the inflammatory affections of the brain. It is well observed by Dr. A. that the investigation of these affections is attended with peculiar difficulties, from the fact that the patient, at an early period, becomes unable to express his feelings, and the proper symptoms of the disease are lost sight of amid that general suspension of the faculties to which we give the name of *oppression of the brain.*

While upon this subject, he further remarks, that the proper course of investigation in diseases of the brain has been lost sight of, and their pathology obscured by the practice of ascribing this oppression to pressure upon the brain. That this opinion is not true is now well ascertained from the fact, that every degree of coma may exist, in connexion with a state of disease that is simply inflammatory without any manifest cause of compression, while, on the other hand, a very considerable degree of effusion may take place without any of the symptoms usually ascribed to compression.

Inflammations of the brain are found to vary very considerably in different cases. "These varieties appear to be referable to three circumstances—the seat of the inflammation—the degree of its activity—and the mode of its termination.

Affections of the brain so frequently occur as idiopathic affections, or supervene upon other diseases, that every medical reader is familiar with the *general symptoms* which indicate inflammation of this organ. We shall not, therefore, notice this part of the work further than to give a general view of these symptoms in the language of the author.

In the Head.—Violent headache with throbbing and giddiness—tinitus—sense of weight and fulness—stupor—a great propensity to sleep. In many obscure and insidious cases, a constant feeling of giddiness is the only remarkable symptom.

In the Eye.—Impatience of light—unusual contraction or dilatation of the pupil—double vision—squinting—blindness—distortion of the eyes outwards—paralysis of the muscles of the eyelids, producing, according to the muscle that is affected, either the shut eye, or the gaping eye—transient attacks of blindness or double vision—objects seen that do not exist—a long-sighted person suddenly recovering ordinary vision.

In the Ear.—Transient attacks of deafness—great noise in the ears—unusual acuteness in the hearing.

In the Speech.—Indistinct or difficult articulation—unusual quickness of speech, or unusual slowness.

In the Pulse.—Slowness and remarkable variations in frequency.

In the Mind.—High delirium—transient fits of incoherence—peculiar confusion of thought, and forgetfulness on particular topics.

In the Muscles.—Paralytic and convulsive affections—sometimes confined to one limb, or even part of a limb; and a state of rigid contraction of particular limbs.

In the Urine.—There frequently occurs a remarkable diminution of the secretion—sometimes nearly amounting to complete suppression; and connected with this diminution there is often a frequent desire to pass urine, occasioned probably by the increased acrimony, as the quantity diminishes.—p. 35-6.

It is not necessary to caution a physician of any experience, against the insidious characters of these diseases and the deceitful prospect of amendment which they hold out; since they are matters of every day observation, and the subject of familiar remark. Whenever, therefore, in an attack of fever, symptoms have been observed indicating an unusual affection of the brain, the attentive practitioner will not be led into a fatal security by the apparent subsidence of these symptoms and the return of the pulse to thehealthy standard; still less will his attention remit, if this apparent calm be accompanied with any of the symptoms which have just been enumerated by the author as indications of cerebral disease.

Section II. treats of the *principal seats and terminations* of inflammation of the brain.

The varieties in the seat of the inflammation may be referred to the following heads: 1. The Dura Mater. 2. The Pia Mater and the Arachnoid. 3. The substance of the Hemispheres. 4. The dense white matter forming the central parts of the brain.

As to its terminations, the disease may prove fatal in its

1. Inflammatory stage.
2. By serous effusion.
3. By deposition of false membrane. This arises from inflammation of the membranes. It may be found between the bone and the dura mater or between the dura mater and the

arachnoid. Its most common seat is under the arachnoid or on the upper surface of the tentorium.

4. By suppuration. This occasionally takes place in the membranes and sometimes in the ventricles. Its more frequent seat, however, is in the substance of the brain.

5. By ramollisement.

A peculiar disorganization or softening of the brain, which has now received that name,—a term adopted from the French to express the peculiar morbid appearance. It consists in a part of the cerebral substance being broken down into a soft pulpy mass, retaining its natural color, but having lost its cohesion and consistence. It differs entirely from suppuration, having neither the color nor the fetor of pus; but the white parts of the brain in which it is most commonly observed retain their pure milky whiteness. It may be found in any part of the brain; but the most common seat of it in my observations is the dense white matter forming the corpus callosum, fornix and septum lucidum. The septum is generally found in such cases perforated by a ragged irregular opening, and the fornix has either entirely lost both its figure and its consistence, or retains its figure while it is left untouched, but falls down into a soft pulpy mass, when the slightest attempt is made to raise it.—p. 43.

Some difference of opinion has prevailed upon this subject; whether this affection is really the result of inflammation or not; M. Rostan and other French pathologists who have examined the subject with great attention, considering it as a disease *sui generis*. Dr. A. considers it as analagous to gangrene, and attempts to reconcile these conflicting opinions by supposing that, like gangrene in other parts of the body, it may result either from inflammation, or from those derangements of the circulation which are the consequences of age and infirmity.

Gangrene from inflammation is familiar to every one; and equally familiar, though very different in its origin and concomitant symptoms, is gangrene from disease of the arteries of any particular part of the body. Ossification of the arteries of the brain to a very great extent is a common appearance in elderly people, and seems to be a very frequent source of apoplexy with extravasation of blood, at advanced periods of life. It appears extremely probable that it may be the source of that particular condition of a part of the brain which terminates in the ramollissement of M. Roston, and he distinctly points at this explanation of it. On the other hand, I am still disposed to contend, that the ramollissement of young persons occurring in acute affections, and seated chiefly in the central parts, is one of the terminations of inflammation in that particular structure. I conceive it to be an affection of primary importance in the pathology of acute affections of the

brain, and to mark a peculiar seat of the inflammation of very frequent occurrence. It is often combined with suppuration in other parts of the brain, and very often with effusion in the ventricles; but the peculiar interest of it is observed in those cases, in which it is the only morbid appearance, and in which it is sometimes of small extent. Of this some remarkable examples will be given in the sequel, in which the perforation of the septum lucidum, by softening of the fornix, were the only morbid appearances in cases which were fatal with all the usual symptoms of acute hydrocephalus.—p. 45–6.

6. As terminations of the disease in a chronic form we have thickening of the membranes, contraction and obliteration of the sinuses, caries of the bones, &c.

The following remarks—the result of Dr. A.'s observation upon the connexion between the symptoms and the appearances on dissection—are interesting:

In the pathology of acute hydrocephalus, we may consider it as probable, or almost ascertained, that the serous effusion is only one of the terminations of that inflammatory condition of the brain, which is a great and leading object of attention in the pathology and the treatment. Some of the other terminations are scarcely less frequent; particularly the ramollisesment of the central parts, which is sometimes met with as the only morbid appearance, and is found combined with the effusion in a very large proportion of the ordinary cases of hydrocephalus. Other cases, in which the symptoms closely resemble those of hydrocephalus, will be found to terminate by the undefined suppuration, or by this combined with serous effusion, or with the ramollissement of the central parts. In fact, we do not often meet with any one of the terminations uncombined, and it is impossible to anticipate from the symptoms, in what manner the disease may terminate in any particular case. Serous effusion, uncombined with any other morbid appearance, I have usually observed in that which I have described, as the fourth form of the disease, in which the symptoms are slow and insidious in their progress, and at no period exhibit much activity. In the cases of this kind in which the pain is more severe, and the symptoms are more violent, I have generally found either effusion combined with the ramollissement of the central parts, or undefined suppuration. In that which I have described as the second form of the disease,* I have generally observed the encysted abscess or the deposition of false membrane between the arachnoid and pia mater. But these results are by no means uniform; and the ramollissement in particular may occur with very slight and insidious symptoms. The various terminations, indeed, are very often combined together, and all of them are generally combined with more or less of serous effusion. On what these varieties depend, is at present in a great measure matter of conjecture. There is some reason to believe, that the darker or cortical parts of the brain are the chief seats of suppuration, and that the inflammation of the more central white matter terminates chiefly by

* A form of the disease ushered in by convulsions and followed immediately or speedily by coma or paralysis, and soon terminating fatally.—Ed.

ramollissement. The disease is also greatly modified by the activity of the inflammation, depending probably upon the constitution of the patient. Thus, in some cases, we find it assuming the highest characters of active inflammation, in others, consisting of the pure scrofulous inflammation with the lowest degree of activity, and in others, forming numerous modifications by which these two extreme forms pass one into another by almost insensible gradations.—p. 46–7.

Idiopathic inflammation of the dura mater is a very rare affection, Dr. A. having met with but one distinctly marked case of it. It is more frequently met with as a scrofulous affection, combined with disease of the nose or of the ear. Some habits are extremely liable to severe pain of the ear followed by a discharge of purulent matter. To these cases coma sometimes suddenly supervenes and the patient dies in a few days. On dissection, caries of the pars petrosa of the temporal bone is generally met with, the dura mater in the neighborhood is inflamed, thickened, spongy, and ulcerated, with a deposition either of purulent matter or of false membrane between it and the arachnoid. In some cases a superficial abscess of the brain is found with marks of general disease.

A form of disease similar to this is produced by the extension of disease from the bones of the nose. After a similar train of symptoms, death takes place, and the ethmoid bone or frontal sinuses are found carious, with disease of the membranes and the brain in the neighborhood. The same event may take place from disease of any other part of the bone. Such cases are, of course, generally fatal; instances, however, are recorded in which, on the application of a trephine, they have eventually done well.

As the result of inflammatory action of a more slow and chronic kind, the dura mater is liable to thickening and depositions of new matter betwixt its laminæ.

As inflammation of the arachnoid and pia mater is generally combined, the author does not attempt to distinguish them, but speaks of them under the general term of meningitis. The pia mater frequently presents a most intense degree of inflammation, while the arachnoid seldom exhibits any great degree of vascularity; and hence some have doubted whether the arachnoid ever is the seat of inflammation.

In the symptoms of meningitis there is no uniformity, but the more common mode of its occurrence is by a severe and long continued convulsion sometimes preceded by headache or vomiting; but, in other cases, coming on without any warning. This convulsion passes into coma, which afterwards alternates with a repetition of the convulsion, until, in a few days, the case terminates fatally. In other cases, after the convulsion, the patient appears to be doing well for some time, but afterward falls into coma, either with or without a repetition of the convulsions.

The symptoms are far from uniformly conveying an idea either of the extent or the violence of the inflammation. The whole surface of the brain occasionally exhibiting marks of intense inflammation, when the symptoms have been very obscure, and, *vice versa*, the symptoms being sometimes very severe and well defined, when the inflammation is limited in extent, and runs a protracted course.

The most usual termination is by the formation of a yellow adventitious membrane between the membranes or between them and the adjacent parts. Suppuration may also take place upon the surface of the brain or within the ventricles. In the convulsive affections which occur in children during dentition, a thin but extensive coating of puriform fluid is observed upon the surface of the pia mater.

There is a dangerous modification of this form of disease, which, after death, shews nothing but increased vascularity of the membranes.

It is apt to be mistaken for mania, or, in females, for a modification of hysteria; and in this manner the dangerous nature of it has sometimes been overlooked, until it proved rapidly and unexpectedly fatal. It sometimes commences with depression of spirits, which after a short time passes off very suddenly, and is at once succeeded by an unusual degree of cheerfulness, rapidly followed by maniacal excitement. In other cases, these preliminary stages are less remarkable; the affection, when it first excites attention, being in its more confirmed form. This is in general distinguished by remarkable quickness of manner, rapid incessant talking, and rambling from one subject to another, with obstinate watchfulness, and a small frequent pulse. Sometimes there is hallucination or conception of persons or things which are not present, but in others this is entirely wanting. The progress of the affection is

generally rapid; in some cases it passes into convulsion and coma; but in general it is fatal by a sudden sinking of the vital powers, supervening upon the high excitement, without coma. The principal morbid appearance is a highly vascular state of the pia mater, sometimes with very slight effusion betwixt it and the arachnoid. The disease is one of extreme danger, and does not in general admit of very active treatment. General bleeding is not borne well, and the treatment must in general be confined to topical bleeding with purgatives, antimonials, and the powerful application of cold to the head. The affection is most common in females of a delicate irritable habit, but also occurs in males, especially in those who have been addicted to intemperance.—p. 80–1.

Dr. A. in the later years of his practice, has been in the practice of treating these cases by wine and other stimulants. The chief difficulty is in determining the class of cases to which the stimulating treatment is applicable. Whenever "the excitement is accompanied by a small and rapid pulse, and an expression of paleness and exhaustion," he tries this practice, however violent the excitement may be, and, in a considerable number of cases, has found much reason to be satisfied with it.

An affection different in its symptoms, but presenting the same obscurity in its morbid appearances, frequently occurs in connexion with hooping cough and other diseases, generally proving fatal under every mode of treatment.

Chronic disease of the pia mater and arachnoid is met with in various forms, in some cases consisting of thickening of the membranes themselves, in others with depositions of false membrane, and in some with tubercular disease of the pia mater. These appearances are met with in mamiacs and idiots.

Inflammation of the substance of the Hemispheres.

In the progress of this disease, considerable modifications occur, arising from the various ways in which the inflammation terminates; in these we are chiefly to attend to the following varieties:

I. *It may be fatal in the inflammatory stage.*

II. *The simple ramollissement.*

III. *The preceding appearance mixed with a proportion of purulent matter.*

IV. *The undefined suppuration.* This might perhaps be considered as a modification of the former, but with the purulent matter predominating in quantity.

V. *The defined or encysted abscess.*

VI. *Ulceration of the surface of the brain.*

We have not room to follow our author through his interesting remarks respecting the various forms of cerebral inflammation and the correspondence which the symptoms bear to the nature of it. "There is every reason to believe," says the author, on a review of the subject, "that this inflammation may exist in various degrees of activity; that in the most active forms it advances speedily to ramollissement or suppuration; but that it also exists in a chronic form in which its progress is very slow, so that it may produce urgent symptoms for a considerable length of time without having advanced beyond that stage in which there is a chance of recovery. This latter form we have reason to believe may afterwards pass into suppuration, or may terminate in induration of the cerebral substance, and thus assume the characters of organic disease. The disease may affect any part of the brain and often appears to commence in a small portion of it, gradually extending over a larger portion." In this manner, probably, we may account for the gradual extension of paralysis from the affection of a single muscle until the disease terminates by fatal coma, or permanent paralysis.

We extract the following remarks upon the pathology of hydrocephalus which he locates in the central parts of the brain—inflammation of the corpus callosum septum lucidum, fornix and the membrane lining the ventricles:

> The disease seems to present itself under two different forms. In the one, the inflammation appears to be seated in the membrane lining the ventricles; in the other, in the white matter forming the fornix, septum lucidum, and corpus callosum. In the former case, we find the ventricles filled with a turbid or milky fluid, sometimes containing shreds of coagulable lymph, and sometimes having entirely the characters of purulent matter. These appearances are often combined with a deposition of flocculent matter or false membrane on the surface of the choroid plexus, or on the inner surface of the membrane lining the ventricles, and sometimes with ramollissement of the cerebral matter immediately surrounding them. In the latter case, the affection presents itself in the form of ramollissement or white pulpy degeneration of the parts affected. The septum lucidum is found perforated by a ragged irregular opening, from the softened portion having fallen out. The fornix has lost its consistence in the same manner; and either has lost its figure, by having fallen down into a soft irregular pulpy mass, or, retaining in some degree its figure, while it is not dis-

turbed, falls asunder when the most gentle attempt is made to raise it. The lower part of the corpus callosum is often affected, though, I think, more rarely than the other parts; and there is frequently a similar degeneration of the cerebral matter immediately surrounding the ventricles. It is generally, but not always accompanied by effusion in the ventricles of limpid fluid. The substance which is the product of the disease, is of a pure white color, without fetor, and without the slightest resemblance to purulent matter. It sometimes shows a slightly fibrous texture, but in general is entirely of a soft pulpy consistence without any cohesion of parts.

From all that I have observed of this affection, I have no hesitation in considering it as the termination of inflammation in these particular parts. It is an appearance of very frequent occurrence, and seems to hold an important place in the pathology of the brain, and particularly in the pathology of acute hydrocephalus. A most interesting point in the history of it is, that it may be fatal without effusion, and without any other morbid appearance, though with all the symptoms which are usually considered as indicating acute hydrocephalus.—p. 143–4.

Among the interesting cases given by the author of this affection, we observe some curious anomalies. One in which coma came on suddenly without having been preceded by headache, the pupils dilating upon the approach of light,—another with very obscure symptoms, fatal after the coma disappeared,—a third with remarkable remissions and apparent convalescence, suddenly terminating fatally.

An interesting modification of this affection is that which supervenes upon other chronic diseases, especially of the lungs, the pectoral symptoms generally ceasing after the commencement of the symptoms in the head.

It is the opinion of the author, an opinion which has been also advanced by others, that the prominent symptoms which attend the last stage of hydrocephalus do not arise from effusion, and that we have no reason to believe that mere effusion, if not attended with disease of the central parts of the brain, should necessarily be a fatal disease.

1st. In the ordinary cases of hydrocephalus, the coma and other symptoms attending it are not to be considered as the direct effect of the effusion, but of that morbid condition of the brain of which the effusion is the consequence.

2d. That we have no certain mark which we can rely upon as indicating the presence of effusion in the brain. Slowness of the pulse followed by frequency, squinting, double vision, dilated pupil, paralytic symptoms, and perfect coma, we have seen exist without any effusion.

3d. That all these symptoms may exist in connexion with a state of the brain, which is active, or simply inflammatory, while the disease is the subject of active treatment, and while by such treatment, adopted with decision at an early period, we have the prospect of arresting its progress in a considerable proportion of cases. The ground of prognosis in particular cases depends perhaps in a great measure upon the activity of the symptoms. The more they approach to the character of active inflammation, our prospects of cutting them short will be the greater; and the more they partake of the low scrofulous inflammation, it will be the less. In all of them, the period for active practice is short, the irremediable mischief being probably done at an early period of the disease.—p. 165–6.

The causes of the inflammatory affections of the brain. Among the first of the causes enumerated by the author are other febrile diseases, particularly, the exanthemata. One of the most frequent and severe examples of the disease arising from this source is an affection which supervenes upon scarlatina, often during apparent convalescence. If this affection comes on with acute symptoms the patient frequently recovers under active treatment; if it comes on gradually and insidiously, he generally dies. The disease, the author thinks, more frequently arises from *injuries* than the majority of the profession are aware of; the symptoms supervening after so long an interval as to be ascribed to some other cause. *Suppressed evacuations* is another frequent cause, especially suppression of the menses in young women of an unsound constitution. Under this head perhaps may be referred the effusion of the brain, which is apt to supervene upon urinary disorders, particularly Ischuria Renalis.

In this obscure disease, the prominent symptom is a very sudden diminution of the secretion of urine, amounting frequently almost to a complete suspension of it. Generally about the third day from the occurrence of this symptom, the patient is found passing into a state of coma, in which after a few days more he dies. The ventricles of the brain are found distended with fluid.—p. 169.

A full account of this disease with the supervening affection of the brain is contained in Good's Study of Medicine.

The disease often occurs in connexion with chronic or scrofulous disease in other parts of the body; hence it often appears to partake of the chronic form of inflammation which characterises other scrofulous affections.

In such cases the first disease is not properly to be considered as the cause of the head affection. It merely marks the tendency to inflammation of a chronic or scrofulous character; and, in habits so disposed, the affection of the brain may be excited by causes which elude our observation. On the same principle, disease in the brain may appear in connexion with disease of any other organ, especially in unhealthy children. In such cases the liver has often been found diseased; and, founded upon this observation, diseased liver has often been improperly stated as one of the causes of hydrocephalus. The same observation perhaps applies to worms and various other affections of the bowels, which in unhealthy children are often found to accompany hydrocephalus, and have sometimes been considered in the relation of a cause.—p. 170.

It is not necessary to say much upon a subject about which there is so much uniformity of opinion as there is respecting the treatment of inflammation of the brain. The following quotation respecting the efficacy of purging is all that we have at present room for.

In all the forms of the disease, active purging appears to be the remedy from which we find the most satisfactory results; and although blood-letting is never to be neglected in the earlier stages of the disease, my own experience is, that more recoveries from head affections of the most alarming aspect take place under the use of very strong purging, then under any other mode of treatment. In most of these cases indeed, full and repeated bleeding had been previously employed, but without any apparent effect in arresting the symptoms. The most convenient medicine for this purpose is the croton oil.—p. 174.

To the chapter on inflammatory diseases of the brain is added an appendix upon *Tubercular diseases of the Brain*, and *certain affections of the Bones of the Cranium*.

Tubercles in the brain present the same appearances as they do in other parts of the body—they are generally solid bodies of a firm consistence, and whitish color, varying from the size of a pin head to that of a small egg. They are found in every part of the brain, either imbedded in its substance or attached to the membranes; and in the fatal cases they are softened, in a state of partial unhealthy suppuration. They occur in persons or families in whom a tendency to tubercular disease has otherwise manifested itself, and they are often combined with tubercular disease in other organs. The symptoms are of course very obscure, and indeed the disease often proceeds to a very consider-

able extent without producing any symptoms calculated to excite alarm.

In speaking of the diseases of the bones of the head, Dr. A. mentions an uncommon modification of diseased action in the bones, which is confined to the inner table. The patient had received a severe blow upon the head, by a fall, about a year before. Since that time she had generally complained of fixed pain in the head, with disordered stomach, but without any indication of severe disease of the head, until two or three weeks before her death. On dissection, the external parts of the cranium were found to be natural, but the internal table of the whole of the upper part of the cranium was gone, the dura mater adhering to the rough cancellated structure of the bone by a deposition of soft adventitious membrane of a yellowish color.

Such diseases of the bone are probably the result of a low inflammatory action, originating either from a blow or without any apparent cause. The disease of the internal table alone, is extremely rare. It for the most part affects the external table only, although it sometimes extends to the internal table. Its progress is extremely slow, though when once excited it is impossible to say how far it may extend. It may terminate by exfoliation of the outer table alone, or it may penetrate the whole depth of the bone, and not unfrequently it extends to the dura mater and the brain, and then proves speedily fatal. It often extends slowly and gradually over a very considerable part of the skull, and its progress is so slow, that it sometimes continues to produce unpleasant symptoms through a series of years.

In cases of this kind, Dr. A. thinks there is very little encouragement for the application of the trephine. If matter forms beneath the bone, it should be evacuated, but the only practice that seems justifiable is to make free incisions of the integuments and then promote the separation of the bone by the ordinary means. The uncertainty that must always exist respecting the extent and the exact position of the disease in the bone, and the danger of exposing a surface so liable to inflammation as the membranes of the brain, are the reasons he assigns for this opinion.

The second chapter of this work is devoted to *Apoplectic Diseases.* The author recognizes three distinct forms of this disease, often indeed, running into each other, but still differing remarkably in their symptoms—first, those which are immediately and primarily apoplectic; secondly, those which begin with headache and pass gradually into apoplexy; thirdly, those which are distinguished by palsy and loss of speech without coma. We extract an outline of the symptoms of each form.

I. In the first form of the attack, the patient falls down suddenly, deprived of sense and motion, and lies like a person in a deep sleep; his face generally flushed, his breathing stertorous, his pulse full, and not frequent, sometimes below the natural standard. In some cases convulsion occurs, in others rigid contraction of the muscles of the extremities; and sometimes contraction of the muscles of the one side, with relaxation of the other. In this state of profound stupor, the patient may die after various intervals, from a few minutes to several days; or he may recover perfectly without any bad consequence of the attack remaining; or he may recover from the coma, with paralysis of one side. This paralysis may disappear in a few days, or it may subside gradually, or it may be permanent. Other functions, as the speech, may be affected in the same manner, being speedily or gradually recovered, or permanently lost; and recovery from the apoplectic attack is sometimes accompanied by loss of sight.

II. The second form of the disease begins with a sudden attack of pain in the head; the patient becomes pale, sick, and faint; generally vomits, and frequently, though not always, falls down in a state resembling syncope, the face pale, the body cold, and the pulse very feeble. This is sometimes accompanied by slight convulsion. In other cases, he does not fall down, the sudden attack of pain being only accompanied by slight and transient loss of recollection. In both cases he generally recovers in a few minutes from the first effects of the attack, is quite sensible and able to walk, but continues to complain of headache; after a certain interval, which may vary from a few minutes to several hours, he becomes oppressed, forgetful, and incoherent, and then sinks into coma, from which he never recovers. In some cases paralysis of one side occurs, but in others, and I think the greater proportion of this class, no paralysis is observed.

III. In the third form, the patient is suddenly deprived of the power of one side of the body, and of speech, without stupor; or if the first attack be accompanied by a degree of stupor, this soon disappears; he seems sensible of his situation, and endeavors to express his feelings by signs. In the farther progress of this form of the disease great variety occurs. In some cases, it passes gradually into apoplexy, perhaps after a few hours; in others, under the proper treatment, the patient speedily and entirely recovers. In many cases the recovery is gradual, and it is only at the end of several weeks or months that the complaint is removed. In another variety, the patient recovers so far as to be able to speak indistinctly, and to walk, dragging his leg by a painful effort, and after this makes no further improvement. He may continue in this state for years, and be cut off by a fresh attack, or may die of some

other disease without any recurrence of the symptoms in his head. In a fifth variety, the patient neither recovers, nor becomes apoplectic; he is confined to bed, speechless and paralytic, but in possession of his other faculties, and dies gradually exhausted, without apoplexy, several weeks or months after the attack.—p. 222–3.

The first form in a pathological point of view presents three distinct modifications—apoplexy without any morbid symptoms or what the author proposes to call simple apoplexy; apoplexy with serous effusion; apoplexy with extravasation of blood.

Dr. A. contends that there is no ground for the distinction between sanguineous and serous apoplexy, and, secondly, that the apoplectic symptoms do not depend upon compression of the brain, either by extravasated blood, or by the effusion of serum. Leaving the reader to consult the cases from which his inferences are drawn, we give merely the conclusions at which he arrives.

1. There is a modification of apoplexy which is fatal, without leaving any morbid appearance that can be discovered in the brain.
2. There is another modification, in which we find serous effusion, often in small quantity.
3. The cases which are referrible to these two classes are not distinguished from each other, by any such diversity of symptoms as can be supposed to indicate any essential difference in their nature.
4. Without any apoplectic symptoms, we find serous effusion in the brain in an equal or in a greater quantity than in the cases of the second modification.
5. It is therefore probable, that in these cases the effusion was not the cause of the apoplectic symptoms.
6. It is probable, that the cases of the first modification depend upon a cause which is entirely referrible to a derangement of the circulation in the brain distinct from inflammation.
7. It is probable, that the cases of the second modification are, at their commencement, of the same nature with those of the first; and that the serous effusion is to be considered as the result of that peculiar derangement of the circulation, which constitutes the state of simple apoplexy. In other words, it is probable, that the affection which has been called serous apoplexy is to be considered as simple apoplexy terminating by effusion.—p. 235.

The cases not primarily apoplectic, generally arise from a rupture of a blood-vessel, and are almost uniformly fatal. At the commencement of the disease the prominent symptom is a sudden attack of violent headache, with a sudden interruption of the functions of the brain. This is soon recovered from, and the circulation goes on without interruption until a sufficient

quantity of blood is effused to produce coma. In other cases the effusion of blood appears to be checked by the formation of a coagulum, and, after a considerable interval, breaks out afresh—in others the effusion takes place in a different part of the brain. The rapidity of the symptoms in these cases will, of course, very much depend upon the size of the ruptured vessel. The coma in some instances rapidly supervenes upon the first attack; in others there is an interval of days, in some instances of one or two weeks.

The rupture generally takes place within the substance of the brain; in some instances, however, the effusion is confined to the ventricles, and Dr. A. gives one instance in which extravasation occurred in all the ventricles and along the whole spinal cord.

The source of the hæmorrhage is various:

1. The most common is the rupture of a vessel of moderate size in the substance of the brain, from which the blood bursts by laceration either into the ventricles or to the surface.

2. The superficial vessels. "This appears," says Dr. A., "to be the meningeal apoplexy of M. Serres."

3. From ulceration and rupture of one of the principal arterial trunks.

4. From the vessels of the choroid plexus.

5. From rupture of one of the sinuses.

6. From rupture of small aneurisms in various parts of the cerebral vessels.

It is the opinion of Dr. A. that the rupture in this form of disease most frequently takes place from disease in the coats of the artery without any relation to that congestive or hemorrhagic condition which seems to constitute the state of simple apoplexy. This disease consists in ossification of the coats; in earthy deposits; and, "in some cases, the inner coat is much thickened, of a soft pulpy consistence and very easily separated." This diseased condition of the arteries may give rise to a variety of complaints in the head, and at length terminate fatally by rupture.

The *Paralytic Cases* comprehend the third class. The leading phenomena in this class is the paralytic affection without

coma—in which there is no apoplexy, or the apoplectic state has soon passed off, leaving the paralysis as the more prominent and permanent characteristic.

In the progress of this disease, we observe many remarkable varieties, which may be referred to the following heads:

I. Such an attack may be merely the prelude to the apoplectic, and may pass into it after a short interval. These cases belong chiefly to the second class.

II. The attack may, under the proper treatment, pass off speedily and entirely, leaving, after a very short time, no trace of its existence.

III. The recovery may be very gradual, the use of the affected limbs being restored after several weeks or months.

IV. The palsy may be permanent; that is, the patient, after a certain time, may recover so far as to be able to walk about, dragging his leg with a painful effort, and to speak very imperfectly; and after this, makes no farther improvement to the end of his life, which may be protracted for many years.

V. In a fifth variety the patient makes no recovery; he is confined to bed, speechless and paralytic, but possessed of his other faculties in a considerable degree, and dies gradually exhausted, after several weeks or months; in some cases without coma, in others with coma for a few days before death.—p. 263–4.

The pathology of paralysis is attended with much obscurity. The following, Dr. A. gives as the principal morbid appearances met with, although the disease is frequently observed without any of them, and, on the contrary, they often exist without producing paralytic symptoms:

I. Simple and recent inflammation of the cerebral substance.

II. This inflammation passing into ramollissement.

III. The encysted abscess of the brain.

IV. Induration of a portion of the cerebral substance.

V. Extravasated blood in the ventricles; on the surface of the brain; and in cavities or cysts in the substance of the brain.

VI. The empty cists from which extravasation has been absorbed.

VII. Serous effusion on the surface of the brain.

VIII. Extensive disease of the arteries of the brain.—p. 293.

In addition to these, other causes may be assigned which produce the disease, independent of the brain; viz. long continued exposure to cold; local affections of the nerves; and, "there is a modification which seems to be connected with the state of the circulation in the affected part." Dr. A. gives a

case of very extensive paralysis in which the whole arterial system was extensively ossified.

Dr. A. supposes, and there is very little reason to doubt the truth of his opinion, that paralysis may depend upon a deranged condition of the circulation of the brain, which may leave no traces of disease after death. In this manner we are to account for the rapid disappearance of cases of very extensive paralysis, and, what is perhaps still more remarkable, for the recovery of cases that have long continued without any amendment.

When the affection depends upon extravasation, we find a great diversity of symptoms dependent in a very considerable degree upon the condition of the brain. If the surrounding brain be healthy, a very considerable extravasation may take place without producing very severe or permanent symptoms. On the contrary, if a small coagulum produce severe symptoms, it will generally be found combined with some other form of disease in the brain.

When the surrounding cerebral substance is healthy, coagula of considerable size are absorbed. The thinner parts are first taken up, leaving the coagulum of a firm fibrous texture, which also, after a certain time, entirely disappears. As this process is going on the cavity becomes lined with a firm membrane, and when the coagulum has entirely disappeared, we find the cyst remaining and forming a well defined cavity which is generally entirely empty. According to his experience this cavity generally continues until the end of life.

We have already alluded to the opinions of the author upon the subject of ramollissement; viz. that it was a species of gangrene. One form was described as occurring after inflammation—the other he supposed to be produced by disease of the arterial system. Speaking of this last form he uses the following language:

> This appears to be a disease of the aged,—the cases described by M. Rostan having chiefly occurred in persons from 70 to 80, and upwards. It is accompanied by symptoms of a paralytic and comatose character, and is frequently complicated with extravasation of blood. I have already alluded to the frequency and the exetnt of the disease of the arterial system of the brain in advanced life; and there appears to be

considerable probability in the conjecture, that this may be the source of the ramollissement in the cases of this class. The disease of the arteries consists of ossification, with thickening and contraction, frequently to a great extent, and sometimes with separation of the inner coat. It corresponds precisely with the state of the arteries, which we know to produce gangrene in other parts of the body, particularly in the toes and feet of old people; and, in another place, I have described a remarkable case in which separation of the inner coat of the iliac artery produced gangrene of the whole extremity, which was fatal in four days.—p. 284.

The effect of the disease of the brain upon the nervous system is very diversified. The power of motion is more frequently lost—in some cases the feeling is lost also—in others the feeling is lost without the power of motion being at all affected.

A gentleman who was under the care of Dr. Hay, of Edinburgh, had two paralytic attacks at the distance of eight months from each other. In the first, there was perfect loss of feeling, with only partial loss of motion; in the second there was perfect loss of motion with only partial loss of feeling. He recovered perfectly from the first attack after a short time; but, after the second, though he recovered partially, he continued to drag his leg, and after a year or more died of apoplexy. It is unnecessary to refer the scientific reader to the light which has been thrown on this curious subject by the discoveries of Mr. Charles Bell.—p. 290.

The sensibility of paralytic limbs in some cases is very much increased, and sometimes, they become intensely painful without any apparent cause. As regards the progress, whether of cure or of attack, it sometimes begins at the part of the limb next the body, in other cases it begins at the extremity. Dr. A. has seen a patient who could write legibly, with his arm supported, when the arm from the shoulder to the elbow was completely paralytic.

Dr. A. does not think that the affected limb is generally colder, but that it has lost, in some degree, the power of preserving a medium temperature, and that it partakes of the temperature of the medium to which it is exposed.

Some interesting phenomena are presented by the condition of the mental faculties in paralysis. One of the most common is a loss of the *memory of words*, while the ideas of things and their relations appears to be very little impaired. This has sometimes been observed to be confined to a particular class of words, as nouns, verbs, or adjectives. Sometimes the individual comprehends the word when written, though the relation between the sound and the thing is lost. Another modification

consists in placing one name for another, and in using them uniformly in this way. In other cases the patient having forgotten his language, invents arbitrary names by which he makes his attendants sensible of his immediate wants. Individuals also are said to forget one language while they recollect another, and in other cases to retain their recollection of words without associating with them any meaning. A remarkable case was communicated to Dr. A. in which, an individual who had been blind from a paralytic affection for seven years, was found, on suddenly recovering his sight, to have retained his skill in drawing, for which he had been remarkable before the accident. These facts are curious and interesting, but we know too little of the principles upon which they are founded, to apply them to any useful purpose.

In the *Treatment of Apoplexy*, Dr. A. remarks, our remedies are few and simple—"large and repeated blood-letting, active purgatives, cold applications to the head, an elevated position of the body, cool air and the absence of all stimuli," and antimonials, provided, they do do not occasion vomiting in the early stages. This course the author pursues with every class and description of cases, even in those which, from their occurring in old and debilitated persons, have been thought to require a different mode of treatment.

In the extent of our evacuations, indeed, a due regard is certainly to be had to the age and constitution of the patient, and the strength of the pulse; but I think we have sufficient ground for saying, that there are no symptoms which characterize a distinct class of apoplectic affections, requiring any important distinction in the treatment; or in other words, a class, which in their nature do not admit of blood-letting. On this important point, we may refer with some confidence to the facts which have been related. Weakness of the pulse, and paleness of the countenance, we have seen to be frequent symptoms of the worst form of sanguineous apoplexy; and on the other hand we have seen cases terminate by serous effusion, which were accompanied by strong pulse and flushing of the countenance. Finally. we have seen one remarkable case in which there existed every circumstance that could lead us to consider the disease as serous apoplexy, but which was fatal without any effusion; and another in which there was most extensive effusion without any apoplectic symptom. It is likewise to be kept in mind, that in apoplectic affections the strength of the pulse is a very uncertain guide; for nothing is more common than to find it upon the first attack of apoplexy, weak, languid, and compressible, and becoming

strong and full after the brain has become in some degree relieved by large blood-letting.—p. 303–4.

The cases of sudden and remarkably recovery which we often see in long standing cases, should teach us to persevere in the use of such remedies as may be employed without impairing the stamina of the constitution. In using these, Dr. A. suggests that the system should be kept low by spare living and occasional evacuations. This, he considers, an essential part of the treatment, and accordingly, he differs entirely from those who hold that the diet, in paralytic cases, ought to be nourishing and restorative.

Dr. A. has advanced the opinion that apoplexy and paralysis may take place without either lesion or compression of the brain. In an appendix to the section on apoplexy he offers some conjectures upon the nature of the derangements of the circulation to which this form of disease is probably to be attributed.

The cranium is a complete sphere of bone, exactly filled by the brain, which is thereby protected from all influence without, except what is communicated through the medium of the blood vessels which enter it. In an organ so situated, the amount of blood circulating in its vessels cannot materially vary; the cavity must be filled; and although the distribution of the fluids may be affected, yet the amount of fluids in the head will be the same. This statement is confirmed by the appearance of the brain in animals bled to death.

While in such cases, all the other organs of the body have been found completely blanched or drained of blood, the brain has in general presented in this respect its usual appearance, and, in some cases, the superficial cerebral veins have even been found in so distended a state, that one writer has proposed the paradox, that animals which have been bled to death, die of apoplexy. The most able and most satisfactory observations on this subject are those of Dr. Kellie, of Leith,* made upon animals bled to death under a variety of circumstances. The brain in most of these cases, presented its usual appearance, its blood-vessels being well filled; while in others, the appearances were still more remarkable. In one, the sinuses were loaded with dark blood, and the vessels of the pia mater were delicately filled with florid blood. In another, the sinuses were loaded with blood, the veins of the pia mater were well filled, and the choroid plexus was remarkably turgid. In a very few only of

*Transactions of the Medico Chirurgical Society of Edidburgh, vol. i.

the examples it is remarked, that the vessels of the brain contained sensibly less red blood than in the other cases, and in all of these there was observed some serous effusion. On the other hand, when these experiments were repeated on other animals after a small opening had been made in the cranium by the trephine, the brain was found as much drained of blood as any other part of the body,—p. 314-5.

Now, if we suppose a due distribution of the blood in the brain to be necessary to the healthful performance of its functions, we have here a cause for derangement of the functions of the brain which does not exist in relation to any other organ. Thus, if causes exist to produce an excess of blood in the arterial system of the brain—if the arterial action be suddenly increased, if the passage of the blood from the arteries to the veins be obstructed, or if the capacity of the venous system be diminished, the balance between these two systems must be destroyed.

On the other hand, if the action of the heart be weakened, and the blood, consequently, be thrown into the head with a diminished impulse, the deficiency in the circulating mass will be made up by accumulations in the venous system. We may thus have symptoms of oppression from either of these opposite conditions of the system.

Of disease of the latter kind we have frequent instances in patients liable to paralytic or apoplectic diseases. By frequent bleedings, low diet, and other antiphlogistic treatment, the countenance becomes pale, the body anasarcous, and the patient is liable to frequent attacks of giddiness and confusion, generally accompanied with palpitation. When these symptoms occur, they are to be considered as an indication that depletion has been carried already too far, and that the health of the patient will be improved by a more generous diet. A similar state of the system we observed in the last stage of diseases of exhaustion, sometimes in grown persons, more frequently in children—the patient lying in a state of insensibility, the pupils dilated, the eyes open and insensible, the face pale, and the pulse feeble. From this state they frequently recover by the use of wine and nourishment. Syncope probably depends upon a similar condition of the vessels; differing from apoplexy only as it depends

upon an opposite condition of the system, the symptoms, and the effect upon the sensorial functions, being almost entirely the same.

The third part of this work is devoted to *Organic Diseases* of the brain. By organic diseases are to be understood either permanent changes of the cerebral substance itself, or new formations within the head. They are thus classed by Dr. A.

1. Tumors formed by thickening of the membranes of the brain, or by deposition of new matter between their laminæ.

2. Depositions of a pellucid or semi-pellucid substance having the general properties of albumen, coagulating into a firm mass in the heat of boiling water.

3. A very dense tumor of a uniform white or ash color, exhibiting the appearance and properties of coagulated albumen. This tumor is generally attached to the dura mater, and when upon the external side, they have been known to produce absorption of the bone and arise externally like wens.

4. Tumors resembling those of the former class but, internally, presenting an organized appearance, and a reddish flesh color.

5. Tubercular disease, sometimes firm, sometimes approaching to ulceration.

6. Induration of the cerebral substance.

7. Ossifications. Under this head are to be included both osseous projections from the inner surface of the cranium, and internal ossifications, which are commonly found in the dura mater, most commonly in the falx.

8. Hydatids. This name has been applied to several affections of the brain, some of which do not appear to be really hydatids. Of this kind are the vesicles which are often met with in the choroid plexus; they seem to be merely the loose cellular texture of that organ, elevated into vesicles by a watery effusion; and in a case by Dr. Baillie, they could be injected from the veins. Real hydatids, however, do occur in the brain, as in a case which will be quoted from Zeder, in which there were numerous hydatids, one of them the size of an egg, and containing three small hydatids within it. Cysts containing a watery fluid

likewise occur in various parts of the brain; but it is doubtful whether they are to be considered as hydatids.

Respecting the symptoms which accompany these various forms of disease we find no particular symptoms which can be distinctly referred to the various forms of morbid affection. They are referred by Dr. A. to the following heads:

I. The first class is distinguished by long continued and severe headache, without any other remarkable symptom. The pain varies very much both in its seat and in its severity; and one very remarkable character of the affection is, that the pain sometimes occurs in regular paroxysms, leaving intervals of comparative or complete relief. In the more violent paroxysms the pain is intense, obliging the patient to remain for a considerable time in one position, the slightest motion aggravating it to perfect torture; but the remissions from this severe suffering are often so remarkable as to lead a superficial observer into the belief that it is merely periodical headache, or headache connected with dyspepsia. This latter supposition is also countenanced by the stomach being frequently much disordered, and by the more violent attacks being often accompanied by vomiting. The diagnosis, indeed, is sometimes difficult, but, by attention, it will be found that the duration and violence of the pain must lead to a suspicion that the complaint is something more than common headache, and that, though the stomach is at times disordered, yet that the headache is often most severe when no disorder exists in the stomach that can account for it.

II. In the second form, after some continuance of fixed headache, the organs of sense become affected, as the sight, the hearing, the taste and smell, and occasionally the intellect. The loss of sight generally takes place gradually, being first obscured, and after some time lost; and very often one eye is thus affected before the other is at all impaired.

III. The third class corresponds with the second in the pain and affections of the senses, with the addition of paroxysms of convulsion.

IV. The fourth class is distinguished by convulsion, without any affection of the senses, often with very little complaint of pain, and in general without that fixed and constant pain which occurs in the other classes.

V. The fifth class leads our attention to a new set of symptoms, namely, the paralytic. These may occur in the form of hemiplegia, paraplegia, or paralysis of all the parts below the neck, and in some cases one limb only is affected. The disease is distinguished from the ordinary paralytic cases, by coming on more gradually; one limb, perhaps, or part of a limb being first weak, and the weakness extending very gradually, until it amounts to paralysis.

VI. The sixth class calls our attention to a subject of much interest; a train of symptoms, which are referred to the stomach, but which really depend upon disease in the brain. In many of the cases of organic disease of the brain, the stomach is affected; but those to which I now allude, are remarkable from the affection in the stomach being the prominent symptom. In these there is often, through a considera-

ble part of their progress, very little complaint of the head, or no complaint so fixed and urgent as to direct our attention to the brain as the seat of the disease.

VII. The seventh class is distinguished chiefly by slight and transient affections of an apoplectic character, of which I have formerly given some remarkable examples.—p. 331–7.

Upon the treatment of these affections little can be said. They are not to be considered, however, entirely hopeless. As they generally have their origin in inflammatory action there is every reason to believe that their progress may at least be impeded, as well as the condition of the patient rendered more comfortable. The treatment will consist in keeping the system low, by evacutions, spare diet, cold applications to the head, issues or setons in the neck, and avoiding all causes of excitement.

Chapter IV. is devoted to diseases of the spinal cord. The similarity of structure which exists between the cord and the brain must, of course, induce a very considerable analogy between their diseases. The following list given by the author, will shew that an expectation of this kind is not unfounded:

I. Acute inflammation of the membranes, or meningitis of the cord.

II. Inflammation of the body of the cord, terminating by ramollissement or suppuration.

III. Serous effusion in the spinal canal.

IV. Extravasation of blood in the spinal canal, or spinal apoplexy.

V. Fungoid disease and thickening of the membranes.

VI. Induration of the cord.

VII. Compression of the cord by new formations within the canal, as tubercles, albuminous depositions, hydatids, and ossification of the membranes.

VIII. Destruction of a portion of the cord.

IX. Concussion of the spinal cord.

X. Certain affections of the bones of the spine.—p. 343.

The following extracts upon the symptoms and treatment of this class of diseases will conclude our quotations from Dr. A.'s book:

In regard to the treatment of the diseases of the spinal cord, it is not necessary to enter into any long detail, as it must be regulated by the same principles as the corresponding affections of the brain. In

the more acute affections, we must, of course, rely chiefly on free general and topical bleeding, assisted by blistering, purgatives, and other usual auxiliaries. When the affection is in a more chronic form, the treatment will consist chiefly in local applications, as topical bleeding, blistering, and issues, aided by the horizontal posture. In the earlier stages of such affections, I think the most satisfactory treatment, after free topical bleeding, is by a succession of blisters, applied first on one side of the spine, and then on the other, in quick succession, and repeated in this manner to a considerable number. In some of the cases great benefit is also obtained from continued moderate purging.

When we review the phenomena which have been observed to accompany the diseases of the spinal cord, we find affections of all the principal organs of the body. In the parts connected with the head and neck, we find distortions of the eyes, convulsive affections of the face, difficulty and loss of speech, loss of voice, contraction of the jaw, resembling trismus, and difficulty of swallowing, which is said, in some cases, to have nearly resembled hydrophobia. In the viscera of the thorax, there have been observed oppression, palpitation, and strong and irregular action of the heart; painful sense of stricture in the region of the diaphragm, and difficulty of breathing, which, in some cases has been permanent, and in others, has occurred in paroxysms, resembling asthma. In the organs of the abdomen and pelvis, we find vomiting, pain of the bowels, resembling colic; tenesmus, involuntary discharge of feces, and retention or incontinence of urine. In the muscular parts we observe convulsions and paralysis; the convulsions in some cases resembling chorea, in others tetanus. We are by no means prepared to say, in the present state of our knowledge, that all these proceed directly from the affections of the spinal cord, especially as we observe remarkable diversities and considerable want of uniformity in the symptoms. But the subject presents to us a field of observation which promises most important and most interesting results. It has also opened up a wide field of conjecture, in regard to the influence of the spinal cord, in several diseases which have hitherto been involved in much obscurity.—p. 403-4-5.

Various diseases have been ascribed to an affection of the spinal cord—spasmodic diseases, epilepsy, colica pictonum, fever, hydrophobia, hysteria, &c. Whatever may be the grounds upon which this location is made in these particular cases, the condition of the spinal cord is well worthy of being enquired into in a great variety of chronic diseases, and the physician will find himself amply rewarded for directing his attention to this subject.

We must here take leave of our author, having already exceeded the limits we had assigned ourselves. It would be superfluous for us to recommend the volume, further than to say it should be in the library of every physician. F.

ART. VI.—*A. Cornelii Celsi de Medicina Libri octo ex recensione Leonardi Targæ.*

The eight books of Aulus Cornelius Celsus on Medicine; from the text of Leonardus Targa.

The excessive admiration of the ancients which, a century ago, was as general among professional men, as among the votaries of literature, has of late, so far as our profession is concerned, very much subsided. A familiar acquaintance with Hippocrates and Galen, may perhaps, at present, add something to the dignity of the professor, or the reputation of the writer of grave professional systems; but the mere practitioner derives very little importance in society from antiquated professional reading. Indeed, a prejudice seems rather to be excited against him—a kind of *blue stocking* character is assigned him that is calculated to do any thing rather than promote his interest.

We should not be disposed to blame the decision of the public in this respect, if it were founded upon a due estimate of the value of these writings. Indeed it requires one but to look into the writings of these authors to be convinced that their whole merit consists in the accurate records of disease which they have transmitted to us. They were accurate observers of symptoms; and here, as they were liable to be misled by no theory, their descriptions are true to nature. Observant also of the influence of external agents upon the general health, their works contain many valuable precepts respecting diet and regimen, but as physicians it is impossible to conceive of the crudeness of their opinions, and the absurdity of their practice. Yet, to a mind imbued with a proper degree of love for his profession, the opinions of those who have been distinguished before us in the same field of investigation, ought not be destitute of interest.

The practical instruction they convey does not, it is true, entitle them to occupy a place among the graver studies of the

severe student; but none certainly can regret having occasionally devoted an hour of relaxation to the writings of men who have occupied so large a place in our profession. This is the position we would assign them. As a liberal relaxation from the studies or labors of the profession—as a means of enabling us to estimate more accurately, and to retain more firmly the modern improvements of our profession, by tracing the progress of improvement from the infancy of the art, they have a value that may be differently estimated, but must be acknowledged by all.

Entertaining this view of their importance, we of course differ altogether from those who would make them a part of the elementary studies of the young physician. The course said to have been pursued by Dr. Rush, of commencing with Hippocrates, and studying, successively, the different authors who have been distinguished since his day, is deserving of any thing rather than imitation. From such a course of study we would expect nothing but confused, incoherent and incorrect ideas. To the mind of the student, science should be presented in its simplest and most accurate form, divested of every thing calculated to divert the attention from established principles, or to encourage the imagination at the expense of the judgment. When, from his familiarity with elementary principles, the student is capable of distinguishing the valuable from the useless, and of placing a proper estimate upon the visionary speculations with which the records of medicine abound, then may he be permitted to extend his reading to a greater variety of authors. Even this, however, should be done with the greatest caution, or, if he do not form habits of speculation that will tend greatly to obstruct his progress in knowledge, by prepossessing his mind with false and visionary notions, and by directing it to false objects of pursuit, he will at least have reason to regret that much valuable time has been spent in the acquisition of what will prove perfectly useless. These remarks apply to a certain extent to authors of a much later date than those of which we are now speaking. Every physician will recollect how fascinated he once was with the speculations of Cullen,—speculations which he must now acknowledge do not even serve for empty

pretences to amuse the vulgar by a show of knowledge. It is time, however, for us to return from this digression to the consideration of the volume before us.

Celsus is supposed to have flourished during the reign of Augustus. Whether he was ever engaged in the practice of medicine, or whether he prosecuted the study for his private amusement, is a disputed question, and, since the practice of medicine at the time in which he wrote, was so very imperfect that it is impossible to form an opinion from the internal evidence of the work, the subject must remain involved in obscurity.

However this may be, his work has justly been considered as one of the most valuable of the medical treatises which has descended to us from antiquity. The perspicuity, conciseness, and classical Latinity of his style prove him to have been as accomplished in the literature, as he was familiar with the medical knowledge of the age in which he lived.

Celsus informs, that in the origin of the healing art, its exercise was confined to the practice of surgery; disease being referred to the anger of the gods, its removal was sought for in the various modes of appeasing them which superstition pointed out. In later times as luxury and refinement introduced a greater variety of diseases, the art of healing was connected with the study of philosophy. To Hippocrates is ascribed the honor of having been the first to elevate it to the rank of a distinct profession.

The professors of medicine were, at a very early period of its history, divided into two great classes—those who believed that experience was the only rational foundation of practice, and those who believed, that having first ascertained, as far as possible the laws of animal life in the healthy condition of the body, nothing remained but to exercise their reason in applying the knowledge thus acquired to the cure of the diseases.

The latter class were great advocates for the study of anatomy, thinking, very justly according to our notions, that a man would be better qualified for curing the disease of an organ, the structure and physiology of which he knew something about. Some of this sect were not content with the knowledge they acquired

by the examination of dead bodies, but Herophilus and Erasistratus opened the bodies of the criminals while yet alive, in order that they might observe "the color, form, magnitude, arrangement, texture, and feel" of the organs; thinking it impossible that a physician could pretend to cure the disease of a part of which he was entirely ignorant. Nor did they consider these investigations cruel, since it was perfectly reasonable, that, "by the punishment of a few criminals, means of relief should be sought for innocent persons throughout all time." An admirable comment upon the vivisectors of our own days!

To this the Empirics replied that the search after the hidden and obscure causes of vital action was fruitless, because nature was incomprehensible; that the discord which prevailed among those who professed to teach wisdom to others, rendered it certain that reason could never establish successful principles of practice, and therefore credit ought to be yielded to the authority of no one until it was established by the successful treatment of disease; that a knowledge of the nature of disease, as in the case of wounds where the cause was apparent, did not naturally suggest the appropriate remedy, still less could it do this in the case of the internal organs, where the cause of disease could be, at best, but matter of conjecture; and that since the whole subject was thus obscure and incomprehensible, our dependence must be placed in the sure result of experience; in medicine as in other arts, skill was acquired by practice and observation, and not by disputation. They further contended that the foundation of the healing art was laid in observation, and that observing men having found that certain things were useful in disease, and others injurious, directed the sick to practice the one or avoid the other, until general principles were established; and that after this, men began to discuss the reason and nature of diseases and their remedies, and thus, theory in medicine was subsequent to practice; and if the teaching of reason is in coincidence with experience, it is superfluous, if in opposition, it is false. This process of argumentation was followed up by the bold assumption that for all known diseases, remedies were already discovered, and therefore, unless new diseases

appeared, no new remedies were desired. If, however, new kinds of disease should appear, they might be compared with others that were known, and thus analogy would suggest the appropriate method of treatment.

With arguments like these, obscured by appeals to prejudice, the rival sects contended bitterly against one another, each more anxious to shew the absurdity of the opinions of his antagonist, and load him with odium, than to prove himself in the right. Accustomed as we are to assign to theory and observation their appropriate sphere, and properly to estimate the due value of each, we may smile at the want of point which characterizes this contest; but it is a fair specimen of the mixture of truth and error which imparts obstinacy and bitterness to every dispute in which the passions of men become enlisted.

The two first books of this volume are devoted to the general principles of dietetics; the rules of preserving health; the difference of temperament and constitution; the influence of age, sex, and occupation; the signs of health and disease; the qualities of different kinds of food; and the virtues of different kinds of medicine.

The third and fourth books are devoted to the practice of Medicine; of which, fevers, then as now, constituted a most important part.

It would be unnecessary to follow the author through his description of the symptoms of fevers; indeed he says so little upon the subject that it is almost impossible to avoid the conclusion that he could not himself have been very conversant with them. There is one point, however, to which we refer with pleasure, because, although a very important one in the history of the autumnal fevers of the Southern States, we do not know that it has been noticed by any author except Doctor Jackson. It is this, that in the double tertian form of fever which prevails there, almost universally the milder paroxysm is followed by a restless and uncomfortable night; while, on the other hand, the more violent paroxysm which occurs on the uneven days, has a tendency to a more perfect remission, so that the night is spent in comparative comfort. The following is his language:

"It almost universally happens that the most comfortable night follows the most severe paroxysm, and thus it follows that the most distressing night precedes the severest paroxysm."

In the cure of fever, Celsus made but little use of medicine. "I think," says he, "that potions of medicine are to be given, and the bowels to be moved but seldom; and even this is not to be done in such a manner as that the strength may be wasted, for the principal danger arises from debility." His principal confidence was placed in a proper regulation of the diet; and for this purpose, rules are laid down with a great deal of minuteness. His principal anxiety was to select a time to give food during the intermission, and at as long an interval as possible before the accession of the next paroxysm. For this purpose it was withheld almost entirely for the first three or four days until the type of the fever was accurately ascertained, and then, if the interval between the paroxysms was short, it was given soon after the close of that paroxysm which was followed by the longest intermission. The food which he recommended was unirritating enough to satisfy the most rigid Broussaian. He esteemed it, however, a matter of very great importance to preserve the strength by nourishment of some kind, and conceived that this importance increased with the debility which accompanied the fever; thus it was considered necessary to commence the use of food at an earlier period, in pestilential fevers, in warm climates, in the summer season, and to very young persons.

His apprehensions respecting the use of water were very great. The more violent the fever the more dangerous was it to drink water. No drink was to be given on the first day, unless the fever should so far subside as that the patient could take nourishment; and in the mean time, he was to be comforted with the assurance that the thirst would cease when the paroxysm subsided, and that he would sooner cease to thirst if he drank nothing at all. Nor was any to be allowed on the second day, if the fever did not so far subside as to permit of the patient's taking nourishment; except under some circumstances, when the patient was oppressed with bile or *crudity*, some water might be given to dilate the irritating contents of the stomach.

It was an important consideration whether the body was *constricted* or *relaxed*. If the former, then the bowels were to be moved, the urinary organs to be excited, and perspiration to be elicited in every possible manner. In this form of fever, blood was to be drawn, the body to be agitated by the most violent kinds of passive exercise, and the system to be subdued by fasting, thirst and famine, the warm bath was to be frequently used, the food to be light and sparing, and the drink more abundant than under other circumstances. On the contrary, if the body is *relaxed*, the patient is to be indulged in quiet and repose, and the discharges are to be restrained by remedies appropriate to the organ from which they come.

The class of medicines called *Tonics* seems to have been entirely unknown to the ancients. They consequently possessed no means of cutting short the course of a fever, nor did they think it safe to do so if in their power. It might be supposed that with the limited remedial agents they had at their control, they would have entertained no apprehensions lest the disease should have been cured too speedily. This, however, was actually the case. Under the impression that a disease too speedily removed was liable to return, they reprobated the practice of a speedy cure. Indeed the whole amount of their interference appears to have been to bring the system into the most favorable condition to permit nature to bring about a solution of the disease by her own efforts. The opinion that a disease could only be safely cured by the *vis medicatrix naturæ*, and that its different stages until, nature brings about its resolution, follow each other in regular succession, is an opinion that mankind have ever been prone to entertain favorably. It is unnecessary at this time to say how completely such an opinion is refuted by the present achievements of our profession; nor is it necessary to remark how fatal such an hypothesis must be to all vigorous practice, and to every prospect of improving the resources of the art of healing.

Having disposed of the subject of fevers, it would startle one, accustomed to the cumbrous nosology of the present day, to see how small is the catalogue of diseases of which Celsus treats.

Some thirty or forty diseases, and many of these mere symptoms, compose his whole catalogue. Ignorant as they were of pathology, anatomy and physiology, they cannot be supposed to offer any think worthy of notice in their practice or their speculations. The only active remedy they employed, with the exception of purging in mania, was blood-letting. This remedy was sometimes, although with great reluctance employed in fever, but it was principally confined to cases of inflammation. They were acquainted both with cupping and bleeding, and of the different circumstances under which one or the other ought to be applied, appear to have formed a very correct idea.

Surgery, as practised at present, was divided into two departments; one treating of those forms of disease or of injury which the surgeon was called upon to relieve, the other in which he was required to use the knife.

If a minute division of external agents calculated to produce different effects upon the body was all that is necessary to produce successful surgical practice, there would have been nothing wanting to the cotemporaries of Celsus. Medicaments they had in abundance, to suppress hemorrhage, to glutinate wounds, to concoct them and promote the formation of pus, to open them, to purge them, to corrode them, to form crusts upon ulcers, to discuss tumors, to cause them to suppurate, to promote the granulation of ulcers, &c. These medicaments were variously and operosely compounded, according to the whim of the chirurgeon or upon the authority of some great name. The treatment of wounds by Celsus appears to have been judicious, and the symptoms arising from the wounds of the different viscera are very accurately laid down. He appears to have been fully aware of the utility of treating recent wounds by simple dressings, but the prejudice of the times in favor of a more complicated and artificial mode of treatment, were too great to permit it to be carried into general practice. He was acquainted with the use of the ligature for the suppression of hemorrhage, since he used it in some operations, especially in extirpation of the testicle; but in the hemorrhage arising from wounds he appears to have relied entirely upon pressure applied to the mouth of the wound.

The two last chapters are devoted to operative surgery; and with a brief account of some of their most important operations we shall close this review.

In the days of Celsus, surgery was already made a distinct branch of the profession, and practised by a body of men who professed to devote themselves to it exclusively; though, as the limits of the profession were not very extensive, it is not without reason that he praises those whose information embraced all the different branches of medicine. With many of the different operations upon the eye they were familiar. The operation of couching for cataract is well described by Celsus, who also directs that if the cataract rises again, it should be broken up and cut to pieces with the needle. With the account of the operation he gives a description of the eye, upon which we merely notice, as an instance of their careless observation, the opinion that the color of the eye was determined by that of the vitreous humor.

They removed polypus of the nose by means of an instrument shaped like a spatula, taking great care to avoid injuring the cartilages of the nose. For the cure of ozæna, he says, "some recommend that a reed should be introduced into the nostril, and through it, a heated iron wire be applied to the bone, or that the nostril should be cut up as high as the nasal bone, that the diseased part might be exposed to view and the cautery be applied more readily.

The tonsils, when permanently enlarged, were seized with a hook and excised with the scalpel, the bleeding being afterwards restrained by caustic applications. A relaxed uvula was treated in the same manner.

Umbilical hernia was treated, as it is at present, by the suture, with view to a radical cure. For scrotal or inguinal hernia, if the contents of the hernia could not be reduced by the taxis, no radical cure was proposed unless it was omental. The sac was then opened, and the protruding omentum destroyed by caustic dressings, or its circulation interrupted by the ligature. Some surgeons recommended the omentum at once to be cut away; but this practice was reprobated by Celsus as being liable to be

followed by dangerous hemorrhage. All interference with strangulated hernia was considered highly dangerous, and the cure was left to nature, with such relief as venesection, fomentations, the warm bath, enemata, and low diet could afford.

Celsus is well known as the first author of antiquity whose description of the present mode of operating for the stone has reached us. The mode of operating, without sound or gorget, was rude and simple enough, and very similar to that in use among the native practitioners of India at this day. The difficulties attending the operation, and the precautions necessary are laid down with a precision that must have resulted from long practice.

In pregnant females, if the fœtus died near the period of parturition, manual assistance was supposed to be necessary for its removal. The hand of the surgeon being previously oiled, the os uteri was to be dilated by the introduction of first one finger, and then another, until the whole hand could be introduced. An attempt was then to be made, either make the head present, or to bring down the feet. If the head presented, the extraction was made with the assistance of the crotchet; if the feet, it was brought down as at the present day. The whole treatment was rash and violent in the extreme.

The treatment of piles was sufficiently bold. The indurated tumors which remain after repeated attacks, were freely removed by the knife. Bleeding piles, if small, were first included in a ligature and then laid open with a scalpel; if larger, the membrane around its base was divided before the ligature was applied. The part was then dressed with lint and cerate, and the inflammation resulting from the operation allayed by fomentations and the warm bath.

In injuries or diseases of the skull, the ancient surgeons were familiar with the use of the trephine, and appear to have anticipated some of the principles of operation which are the boast of modern surgery. For instance, respecting the immediate use of this instrument in cases of depression, Celsus says:

"In all fissures and fractures of the bone, it was customary with the older practioners to proceed at once to the use of the

instruments for excision. But it is far better first to make trial of such plasters as are composed for the calvaria, and to apply any one of them alone, softened with vinegar, upon the fissured or fractured bone; then over that, to lay on a piece of linen rag somewhat wider than the wound itself, spread with the same medicine; and in addition to these, succid wool steeped in vinegar: then, to bandage the wound and open it daily, that it may be dressed in the same way for five days running: on the sixth day to foment it with a sponge and hot water, continuing the other measures. If granulation commence, and the fever have either altogether subsided, or it be but slight, if the appetite for food return and the patient sleep, we are to persevere in the use of the same local application. Afterwards, in process of time, the plaster must be softened by the addition of the cerate made from rose oil, to facilitate granulation, for used by itself it has a repressing quality. In this way, fissures are frequently filled up by a sort of callus, which serves as a cicatrix to the bone; and even more extensive fractures are agglutinated by the same callus, where they do not come in contact; and this constitutes a much better defence to the brain, than the flesh which grows over it, after partial excision of the bone. If, however, after this our first treatment, the fever be increased, the sleep short, and interrupted by tumultuous dreams, the ulcer moist, and not nourished, the glands of the neck enlarged and the pains violent, while after all these symptoms the loathing of food increases, then at last, there is a necessity for proceeding to a manuel operation with the chisel."

We question also if the following expression did not suggest to Mr. Abernethy the idea, for which he was at one time so much lauded, of scraping the bone to ascertain whether there was extravasation beneath it:

"Rarely, but yet occasionally, it happens, that the bone remains entire, while internal rupture of some one of the veins of the cerebral membrane occasions hemorrhage, and the blood coagulating excites severe pains, and in some cases blindness. Now more usually the pain is referred externally to the part which corresponds with the extravasation, and on laying open

the integument there, *the bone is discovered to be pale;* therefore that too must be removed."

We shall close this article with the author's account of the operation for varicose veins of the legs—an operation, we should think, sufficiently formidable not to be very frequently repeated:

"Our next transition from these last affections is to the legs. Varices occurring in these, are easily removed. I reserved the operations required for varicose veins of the head, as well as those which form over the abdomen, that I might treat of them also in this paragraph; since they all require the same method of cure. The diseased vein then is either obliterated by cauterization, or excised by the knife. If such veins be straight, or even if situated transversely, provided they be single and of a moderate size, the cautery is preferable. If tortuous, and disposed in orbs, with a number of them interlacing each other, the better plan is to remove them. The method of cauterizing them is as follows: An incision is made through the integument by which they are covered; then, having exposed the vein, a moderate pressure is made upon it with a small blunt heated cautery, care being taken not to burn the edges of the wound, which may easily be retracted by hooks. The cauterization must be repeated throughout the whole course of the varix, at interspaces of about four digits: afterwards dressing the wound with either of the remedies proper for burns. But the incision is thus performed. The skin over the vein having been incised as before, its edges are retracted with the small hook; and the vein is completely detached on all sides from the surrounding flesh, taking care at the same time not to wound the vein itself, under that, a blunt hook is passed; and usually at the same distance as above mentioned a second under the same vein; and so on throughout the entire course of the varicose vessel, whose course is easily detected by extending the hook. This done, the vein being drawn, at one point by the hook, is divided; then, where the next hook is fixed, it is drawn up, and the excision repeated. In this way, the legs being entirely freed from the varices, the edges of the wound are approximated, and an agglutinant plaster laid over them."

For those who may not be sufficiently acquainted with the Latin to read the author in the original language, a translation has been published by Doctor Collier, of London, not very elegant nor at all times perfectly accurate, but sufficiently faithful for those who wish a general insight into the author's views.

In perusing the works of this venerable author we would caution our youthful reader against an ill-judged triumph on the superiority of modern science. Feelings of this kind are little calculated to render the perusal beneficial to him. Let him rather draw inspiration from the Genius which, with all its defects, has triumphed over the vicissitudes of nearly nineteen centuries; and that he may do this the more effectually, let him remember that all intellectual improvement is progressive, and that the era is probably not very remote when our successors will look upon the opinions of our contemporaries who may have the good fortune to outlive the present generation, with very little more respect than we now look upon those of Celsus.

ART. VII.—*A Manual of Surgery, founded upon the principles and practice lately taught by Sir Astley Cooper and Joseph Henry Green, Esq., F. R. S., Professor of Anatomy to the Royal Academy, Surgeon to, and Lecturer on Surgery, St. Thomas's Hospital.* Edited by THOMAS CASTLE, F. L. S. Boston: Munroe and Francis. New York: Charles L. Francis. 1833. 12mo. pp. 460.

The advantages of a judicious and comprehensive manuel, to which the student of medicine may refer, for the purpose of acquiring an outline of the principles of the science he is studying, or by which the practitioner may revive the recollection of former studies, and call up associations which business or time may have driven from his memory, will be acknowledged by all. Of the numerous manuals which have, at different times, been offered to the public, we know of none that has higher claims

upon the profession than this. It contains, by far, a more faithful abstract of the opinions of Sir Astley Cooper than any of the ephemeral works that have been published under the sanction of his name, concisely and perspicuously expressed. The more important principles are printed in larger type than the explanations, qualifications, &c., which are necessary to elucidate. By this arrangement we think an important advantage is offered to the student, his attention being kept alive and his memory assisted by the connexion which is thus preserved between principles and details.

We subjoin a few extracts, not only as specimens of the work, but for the important principles they contain.

Wounds of the brain will often happen without producing any interruption to the operations of either the mind or body. But should the wound be accompanied by compression or concussion, then the particular symptoms which characterize those injuries will be present.

If the wound is a simple incision or laceration, it will prove quite harmless. Indeed, it frequently occurs that considerable portions of the brain are lost, and yet the mental and bodily functions continue unimpaired. Epileptic fits and hemiplegia certainly sometimes follow these injuries.

It occasionally happens, when a portion of brain has been lost, that a piece of the cranium will, by being driven in, occupy its place.

If in these cases, no symptoms of compression manifest themselves, you must not elevate the depressed bone; for were you to do so, you would, in all probability, give rise to extravasation, or increase the hazard of inflammation.

The danger attending injuries of the brain, arises principally from two causes; the formation of fungus, and from inflammation.

Fungus:—When the brain receives a wound, you must commence your curative exertions, by abstracting as large a quantity of blood from the system as the constitution of your patient will bear; not, however, to such an extent as to prevent the restorative operations of nature. After some days have elapsed, the divided parts begin to unite by means of the adhesive inflammation; but if this process cannot

effect a cure, granulations form, which at length project through the opening in the skull, and give rise to fungus.

When this is the case, the safety of your patient will depend on the treatment you adopt; for if you do not repress the growth of the fungus until the dura mater heals over it, there will be violent constitutional irritation, and the life of the patient in jeopardy; but on the contrary, if you attend to the condition of the wound, and prevent the fungus from rising, there will be comparatively speaking, but little danger.

Your treatment should be as follows:—Apply to the fungus a piece of lint wetted with liquor calcis, and over this, strapping of adhesive plaster; when you examine the part on the following day, you will find the fungus considerably diminished: you are then to use a thicker piece of lint, and the strapping as before; you must pursue this plan until you have succeeded in getting it even with the dura mater, in which position it must be cautiously preserved; when, at last, the dura mater heals over it, and your object is accomplished.

Inflammation:—Wounds of the brain are dangerous from the inflammation which supervenes, and which danger is increased, if the dura mater is the part attacked. When inflammation attacks the membranes, symptoms of irritation will be present: but if the brain itself, they will be those of compression.

The ordinary symptoms are, great pain in the head; the scalp œdematous round the external wound; the edges of the wound have a shining, glossy appearance; and there is a discharge from the wound itself, composed of serum and blood; sometimes the parts about the wound have a sloughy appearance; the countenance is very much flushed, and the carotid arteries beat with very great force; there are very frequent rigors; sometimes hemiplegia; and the patient very quickly falls into a comatose state.

Inflammation of the brain is more slow in its occurrence after an injury, than inflammation after an injury of another part. It is generally about a week before it comes on; very rarely under that time.

It often happens that inflammation of the brain does not come on till a fortnight, or even three weeks after the injury; you must, therefore, be upon your guard, as your patient is not out of danger until that length of time has elapsed, and sometimes not even then.—p. 73–5.

The following remarks upon the application of the trephine.

When the dura mater is wounded in this operation, the patient very rarely recovers; but if the dura mater and pia mater are both injured, the danger is less: in the former case there will be excessive inflammation; whereas, in the latter, a fungus immediately projects and fills up the cavity.

If the whole depressed portion of bone cannot be raised, or all the blood or matter cannot be discharged, by making one perforation, the operation must be repeated, and as often as the case may require.

Removing large portions of the skull, however, should always be avoided if possible, because it may be itself the source of bad and even fatal consequences; but it is certainly less dangerous, than not completely removing the pressure from the surface of the brain.

The operation in question, we have observed, is not always necessary; but there are four circumstances when it becomes requisite.

First:—When there is extravasation of blood between the dura mater and skull.

Secondly:—In compound fracture with depression, *unaccompanied* with symptoms of compression.

Thirdly:—In simple fractures, with depression and symptoms of compression continuing after depletion.

And lastly:—It is sometimes required that an opening should be made in the cranium, when there is matter between the dura mater and skull.

Now it generally happens in this last case, where there is matter between the dura mater and skull, that there is fracture, and this is an indication that some injury has been done to the brain, when it is also followed by rigors and other symptoms: still it will be right, in some cases where there is no fracture, and the other symptoms, rigors, &c. are present, to penetrate the bone, to see whether matter is lodged between it and the dura mater; and this is the only case in which it is proper.—p. 77–8.

Wounded arteries require so much despatch and presence of mind upon the part of the surgeon that the proper mode of af-

fording relief in such cases should always be before the mind of the practitioner.

Arteries of the Scalp:—Wounds of these arteries require a complete division of the injured vessel, and the application of pressure.

By the first, retraction is permitted, and future bleeding prevented; by the second, the present hemorrhage is suppressed.

Axillary Artery:—In taking up the axillary artery, when it is wounded, Scarpa recommends the opening, made to expose the vessel, should be sufficiently extensive; and that the vessel should be raised from plexus of the nerves before it is secured.

In performing this operation, agreeable to Scarpa's directions, an assistant must compress the vessel, from above the clavicle, as it passes over the first rib. When the weapon has penetrated from below upward directly into the axilla, the surgeon is to make a free dilatation of the wound upon a director, or his finger. This must be done to a sufficient height to expose a considerable portion of the artery, and the precise situation of the wound in it.

When the weapon has pierced obliquely, or from above downwards, through a portion of the great pectoral muscle, into the axilla, the surgeon is to cut through the lower edge of this muscle, and enlarge the wound, on a directory, or his finger, so as to bring fairly into view the injured part of the artery. The thoracic arteries divided in the operation, must be immediately tied. The clots of blood are then to be removed, and the bottom of the wound cleaned with a sponge, by which means the opening in the axillary artery will be more clearly seen. Two ligatures will be required; one above the wound of the artery, and the other below.

Brachial Artery:—In tying the brachial artery, there is only one circumstance to bear in mind, and it is this; the vessel is accompanied by the medium nerve: now, if you should include this in the ligature, it would either destroy the patient's life, or cause paralysis of the limb.

Sometimes, in wounds of the brachial artery, the injury may be overcome by a slight bandage, and a thick dossil of lint as a compress. But if aneurism forms, the torniquet should be employed, and if this does not succeed, a ligature must be applied. The direction for the incision is the inner edge of the biceps muscle, and this cut almost immediately lays bare the median nerve.

Ulnar Artery:—The wounds of this artery are usually at the lower part of the forearm, where the vessel is situated, between the flexor carpi ulnaris and the flexor profundis: it is accompanied by the ulnar nerve, which must be carefully excluded from the ligatures.

When this artery is required to be secured, what is the anatomical direction for the incision? Why the tendon of the flexor carpi ulnaris: if you make your cut upon the inner side of this tendon, you will directly perceive the ulnar artery and ulnar nerve. This then is the part where the vessel may be most easily and safely tied. Two ligatures will be required, one above, and the other below, to prevent hemorrhage from the free anastomosis with the radial artery.

Radial Artery:—This artery is much more frequently wounded than the ulnar, being, in every respect, more exposed.

In securing the radial artery, let your incision be made on the radial side of the tendon of the flexor carpi radialis, and you will immediately find the artery close to its edge. The application of two ligatures is also necessary. Instead of putting ligatures on these vessels at the wrist, for aneurism, or wounds of the palmar arch, it has been recommended to employ pressure, by means of cork folded in lint, and bound down by a bandage. This practice when used, leads to great inflammation and irritation, and I would advise you against using pressure generally, and more especially as regards the ulnar and radial arteries, as they can be so readily tied.

Anterior Tibial Artery:—This vessel is rarely wounded at the upper part of the limb, but frequently at the lower and middle portions; consequently, it requires to be secured at different parts of its course.

The anterior tibial artery passes forward between the bones of the leg, about an inch below the upper head of the fibula.

In order to take up the vessel in this situation, a free cut must be made through the fascia, extending between the heads of the tibia and fibula. The incision is then to be continued more deeply at the edge of the peronæus longus, following the fascia between this muscle and the origin of the extensor digitorum communis. The artery will be met with on the interosseous ligament.

Another situation, in which this artery is sometimes required to be secured, is a little above the middle of the leg.

The finger is to be passed along the outer side of the spine of the ti-

bia, and the breadth of the tibialis anticus muscle is to be ascertained. Along the outer margin of this muscle, an incision is to be made through the integuments and fascia, two inches and a half in length. The knife is then to be introduced between the outer margin of the tibialis anticus muscle, and the extensor longus of the great toe. In this space, at the depth of about an inch, the anterior tibial artery is situated.—p. 149–152.

We subjoin also Sir Astley's mode of puncturing the bladder through the perinuæm for suppression of urine:

Operation through the Perinæum:—This operation bears a great similitude to that for stone. It consists in puncturing the bladder by the side of the prostate gland, and is unattended with any danger of wounding the peritoneum, because it does not reach the anterior part of the bladder.

You make an incision in the perinæum, as in operation for stone, cutting down on the bulb of the penis, and drawing it to the right side. You then carry the knife within the ramus of the ischium till it reaches the prostate gland, which you push to the patient's right side. You then carry the instrument *obliquely upwards* into the bladder, your finger resting on the prostate gland.—p. 208–9.

Sir A., however, thinks that this operation is in general perfectly unnecessary.

We have now gone through the three different operations for puncturing the bladder, and although there is no great difficulty in either, I affirm that we ought to avoid all these operations, and that puncturing the bladder for stricture in the urethra, or enlargement of the prostate gland, is in general perfectly unnecessary.

In cases of accumulation of urine in the bladder, for which many would have recourse to puncturing that organ, I have found opening the urethra only, a better and safer course. All I do is this, I desire the patient to draw up his legs as if he was going to be operated on for stone; I then make my incision into the urethra, according to the seat of the stricture, and the result is, that the urine is passed by the perineum, and the bladder is relieved, without being in the slightest degree injured.—p. 209.

Miscellaneous Intelligence.

ANALECTIC, ANALYTICAL, AND ORIGINAL.

I. Analectic.

1. *On Nervous Ganglions, and on the Origin and Nature of the Intercostal Nerve.* According to Professor Scarpa, the ganglions consist entirely of divisions and subdivisions of the nervous filaments which enter into them; they are surrounded by a soft cellular tissue, and imbued with fluids, and these filaments re-unite again to pass out from the ganglions. The compound ganglions received filaments from different origins, the cords which pass out from them are necessarily formed of filaments coming from these same various origins.

The trunk of the intercostal nerve and its branches contain as many filaments as intercostal nerves which come from them, and also nerves of the fifth and sixth pairs; as to the sixth, it is not known whether it gives or receives. The intercostal nerve, to speak accurately, has no separate existence, but is formed by the junction of almost all the others. It is the same with the bracheal plexus; each branch which comes out, carries with it filaments of all those which enter it, (the inferior cervical, and first dorsal. The inferior branches of the intercostal are the most compound; thus in affections of the bladder, and of the uterus, they disturb the whole body. A question naturally arises, that since the intercostal receives filaments from all the spinal nerves, why is it not subject to the will? The difference observed in the firmness of its texture, compared with that of nerves of sense, is not a sufficient reason; and the effect which has been attributed to its ganglions, of intercepting the effects of the will, is neither proved nor probable; but the explanation of the fact is found in the confirmation which the opinion of Galen has lately received by the experience of M. Panizza, relative to the different faculties of the two roots of the spinal nerves. We now know, in fact, that the anterior roots give motion, and that the posterior, which have a ganglion, sensibility. It is the same with the cerebral nerves; and Mr. Charles Bell has shown that the section of the suborbital nerve, (branch of the fifth pair,) destroys the sensation of the lips, and of the nasal region, and that of the facial nerve, (coming from the seventh pair,) destroys the motion of the same parts.

The fifth pair is divided into two parts, the smaller, which is distributed to the muscles of mastication, the larger which is appropriated to the senses. The lingual branch of the latter is devoted to the function of taste; but it is the ninth pair which gives motion to the tongue, and to the os hyoides. M. Scarpa thinks, moreover, that the nerve of the eighth pair, upon which he has found immediately after it goes out from the cranium a ganglion, a character which he regards as appertaining exclusively to the nerves of sensation, could only be destined to give sensibility to those parts in which its filaments are distributed, whilst the accessory nerve could give motion to those which are of a muscular nature. Setting out from these facts, M. Scarpa has carefully examined from what roots the filaments, which go to the intercostals, arise; and he has discovered that these filaments invariably arise from the posterior. A little above the ganglion, these filaments, at first to the number of three or four, and which are afterwards united into one or two cords, pass above the anterior root, and sometimes envelope it, as in a net-work, or even traverse it. Attention and skill are necessary to distinguish these variations. Thus Schmidt is deceived in believing that the filaments of the intercostals come from the anterior root, they certainly arise solely from the posterior; for they originate before the re-union of the fasciculi arising from the two roots. It follows hence, that the fleshy fibres of the heart and of the stomach do not receive filaments from the nerves of motion, but from those of sensation. They owe their excitation to the blood and to the food, and not to the will.

In a second letter M. Scarpa returns to the character which he attributes to all the nerves of sensation, of having ganglions. The cerebral nerves have them, according to him, whenever they are sensitive. Thus the olfactory has its bulbous extremity. The large portion of the trigemini ganglionary at their origin, has also the ophthalmic, spheno-palatine, and maxillary ganglions. None of the filaments which pass off from it go to the muscles. The par vagum hardly passes from the cranium, when it swells out into a ganglion. "It might be objected," says M. Scarpa, "that the ophthalmic ganglion comes partly from the motor oculi; I deny this second origin; it comes from the nasal branch of the fifth pair; the little band which passes out from the branch of the motor oculi, destined for the obliquus minor, is a cellular, and not a nervous ligament. This nasal nerve also gives off ciliary branches below the ganglion, and the motor oculi does not give off any: thus the motion of the iris does not depend on the will."

One would be tempted to suppose, from what has been just said, that the muscles of the eye, by an exception of which they would be the sole example, receive only nerves of motion, and not of sensation; but M. Scarpa believes that they also receive the latter. He suspects that the abductor receives a twig of that which proceeds directly from the brain, and accompanies the nerve of the sixth pair. As to the others, they receive, according to this authority, their sensibility from the filaments, which, passing out from the superior cervical ganglion

of the intercostal, turn themselves towards the eye following the course of the carotid artery, the ophthalmic artery and its divisions. But how is it, that nature, when the ciliary nerves are so near, should cause the former to originate from such a distance? It is a question which the author proposes without attempting to solve. The posterior roots of all the spinal nerves, after having passed beyond the ganglions of the sensitive roots, unite very intimately with these latter. The same union may there be seen on a small scale, as in the great plexuses. These are the sensitive filaments; which, disentangled from the end of the others, go to the skin to constitute the organ of touch. It is necessary then to abandon the idea, that the touch is exercised by the same nerves as motion.—(*Extract of two letters addressed by M. Scarpa to M. Weber.*)

2. *Case of an Eruptive Disease arising from the use of Cubebs.*—John North, Esq. relates in the *London Medical and Physical Journal*, for March last, the two following cases, in which an eruptive disease was produced by the use of cubebs.

"Case I. Capt. P. after trying various remedies for the cure of an obstinate yet trifling gleet, took, of his own accord, large doses of cubebs three times a day. On the fourth day from the commencement of the remedy, he complained of great restlessness, flushing of the face, sickness, and head-ache. On the fifth, he was covered with an eruption from head to foot, which was accompanied by a high degree of sympathetic fever. The peculiar appearances of the eruption I will attempt to describe in the next case, which was more severe, and attended by more strongly-marked characters. Captain P. recovered in a few days, by the assistance of mild aperients, salines, and confinement to the house: he was, of course, desired to discontinue the cubebs. Upon a subsequent occasion, he again ventured to try the remedy, but he gave it up after taking one dose of it, in consequence of feeling the same general symptoms of restlessness, &c. which had preceded the former attack.

"Case II. Madame T. had long labored under severe leucorrhœa, and, from motives of delicacy, had neglected to consult any medical practitioner. She was recommended, by a friend, to try the effects of powder of cubebs, in doses of a small tea-spoonful twice a day. After the first two doses, she felt feverish, with a tingling and heat over the whole surface of the body; she had rather severe headache, and a very disagreeable sensation of fulness in the eyes; the hands and feet felt hot and numbed. On the third day, a 'flush of red' broke out over the whole of the body; and on the fourth, a decided eruption appeared The cubebs were now discontinued, six doses having been taken. On the fifth day, my attendance was required: her appearance was now peculiar, and rather formidable: her features were so completely changed, as to leave no trace of their natural expression; the face was excessively swollen; eyes turgid and watery; lips puffed, dry, and shining; coryza; hands much swollen, and so stiff that the fingers could not be bent; respiration hurried and difficult; pulse small,

and varying from 120 to 130; skin burning hot; intense thirst; tongue very white; constant nausea, and occasional vomiting. She was covered with an eruption from head to foot, which, in some parts, could not have been distinguished from Urticaria febrilis, while in others it had more the appearance of lichen in its papular stage, but with much more intense inflammation around the base of the papulæ than is commonly seen in that disease. A fortnight elapsed before this lady completely recovered. The remedies employed, consisted of purgatives, salines, and mild anodynes at bed-time."

Mr. North says, that several other cases of the same kind, but milder in degree, have fallen under his care; and a very striking case is recorded in the *Archives Generales*, for November, 1831. A young man was admitted into La Pitie under M. Velpeau, with gonorrhœa, which had existed for two months. After a few days he was ordered a mixture containing cubebs, copavia, and magnesia, in the proportions of two drachms of copavia to four of cubebs. He took this mixture daily, and on the sixth day he was attacked with violent itching and burning over the head and neck. In the morning, his face was covered with dark red patches, and in the course of a few hours, this appearance of the skin, as well as the itching and sensation of burning, had extended over the chest and arms. The following day the abdomen was attacked in the same manner. On the third day, the efflorescence that had at first appeared, became pale, but the legs and feet now presented a similar appearance. The case might easily have been taken for measles, if the cutaneous symptoms only had been regarded, but there was none of the characteristic constitutional disturbance, that attends that disease: the general health was, in fact, undisturbed. In the course of a few days, the eruption entirely disappeared; and if any doubt had existed as to its cause, it was completely removed by the following circumstance: about three weeks after his recovery, the patient repeated a dose of the medicine, which he had accidentally kept, the eruption appeared on the following morning, and remained for two or three days.

A similar eruption is sometimes occasioned by the use of balsam copaiva; and two or three cases of the kind are related by Dr. Hewson, in the 5th vol. of the North American Medical and Surgical Journal.—*Am. Med. and Surg. Jour.*

3. *Treatment of Gastrodynia of* Dr Graves.—Sept. 1828. Rev. I. D——y, æt 36, rather corpulent, of temperate habits, has suffered for three years from violent attacks of gastrodynia. They last sometimes for forty-eight hours, and during their continuance, the agony is described to be so great as to make even death a desirable boon. The symptoms during an attack are—sensation of straitness in the stomach, with exquisite unintermitting pain, the pain shooting into both hypochondria; dry retching, and rejection of every kind of food and medicines; the countenance, during the attack, pale and expressive of distress. He is not able, (although his sufferings make him very attentive to this point,) to trace any connexion between his com-

plaint and different kinds of food. The attacks usually seize him in bed, and sometimes set in at once with great intensity, at other times commence with comparative mildness, progressively increase in intensity, and then disappear gradually in the same manner as they came on. He is rendered somewhat more liable to an attack by confinement of the bowels, and feels relieved after full evacuations; the agony suffered until these are procured is extreme, and even then the relief comes but slowly, and always leaves an internal soreness about the epigastrium, which continues with very little diminution for weeks, and is always proportionate to the previous intensity of the pain. The average frequency of the attack is about once in every two or three months. He resides in the country, but during his present visit to town, he has had one of his attacks, which gave me an opportunity of seeing him in it. It came on late in the evening, without any apparently assignable cause, the pain, as he had in his previous account of some of the fits described it, being at first slight, but steadily increasing in intensity, accompanied with great anguish, rejection of every thing from the stomach, and frequent retching; the eyes were watering, countenance pale, and expressive of great suffering. The previous history leading me to view the disease as arising from morbid sensibility of the nerves of the stomach, I had determined, should an opportunity offer while the patient was under my immediate observation, to exhibit opium. I should perhaps have observed, that all the preceding attacks had been treated in the country by bleeding or leeching, purgative medicines and enemata. I gave him fifteen drops of *tinct. opii.* in half a glass of tepid water, without an admixture of any of the stimulants or aromatics, as ether, fœtid tincture, &c., which are frequently, but, I believe, injudiciously, in many cases added to opium, under the supposition of increasing its virtues. In a few minutes after taking the draught, the stomach became settled, the pain was checked in its progressive intensity, and soon after began to die away, leaving behind it a very trifling soreness, which had nearly quite disappeared on the following morning. This was the first occasion on which he had passed through an attack in this manner.

From the date of the above observations, Sept. 1828 to July, 1831, I had frequent opportunities of seeing this gentleman, and he never, during that space of time, experienced any symptom of relapse. Since July, 1831, I have not seen him, but I may be almost certain, from his silence, that he has continued to enjoy the same immunity up to the present May, 1832.

Concerning alkalies I may remark, that the liquor potassæ causticus, although not so well suited to be used as a domestic medicine, is much preferable to magnesia in removing acidity and heart-burn.—*Lond. Med. and Surg. Jour. July*, 1832.

4. *On the Treatment of Habitual Constipation.* By Robert J. Graves, M. D., &c.—In many chronic diseases, and in habitual constipation, it is of the greatest consequence to procure daily and regular discharges from the bowels. *Lavements* effect this purpose most

conveniently, and possess the advantage of not interfering with or weakening the digestive functions of the stomach and upper portion of the alimentary canal. Many persons, however, particularly females, have an insuperable objection to this method of obtaining relief, and acquire the habit of taking aperient medicines whenever their bowels are confined

Various causes have combined to render blue pill and calomel almost popular remedies, to which many have recourse when their bowels are irregular, or the stomach out of order. Indeed, it is quite incredible what a number of persons are in the habit of taking these preparations, either by themselves, or combined with other purgatives, whenever, to use the common expression, they feel themselves bilious. This habit sooner or later induces a state of extreme nervous irritability, and the invalid finally becomes a confirmed and unhappy hypochondriac; he is, in fact, slowly poisoned, without the more obvious symptoms of mercurialization being at any time produced.

It is almost unnecessary to observe, that although saline aperients give temporary relief, they afterwards increase the tendency to constipation, and weaken the stomach. The class of purgatives least liable to objection consists of magnesia, aloes, rhubarb, colocynth, &c. for exhibiting which, many well known and excellent formulæ are used. But even these substances, whose debilitating effects on the stomach are not near so great as that of mercurials and salts are attended with the disadvantage of being required in larger doses in proportion as the bowels become accustomed to their action. To remedy this evil, Dr. Elliotson has suggested a valuable combination, consisting of compound extract of colocynth with minute doses of croton oil. This I have frequently given with the best effects: but it is liable to a serious objection, for unless the croton oil be perfectly mixed with the mass, some of the pills may be too powerful, while the others are comparatively inert, and consequently the patient is exposed to the danger of hypercatharsis, as I have twice witnessed, although in both cases the medicines had been prepared in the shop of a respectable apothecary. The following combination will in general serve to obviate costiveness, without diminishing the appetite, or being attended with the necessity of the dose being increased as the patient becomes accustomed to its use:—R. Electuarii. sennæ, oz.ii.; Pulv. supertart. potassæ, oz.ss.; Carbonatis ferri, oz.ii.; Syrupi zingiberis, q. s.; Ft. electuarium. For the first few days I generally add about two drachms of sulphur to this electuary; but as soon as its operation has been established, the quantity of sulphur may be diminished one-half, and at the end of a week it may be omitted altogether. The dose must be regulated by its effects, but in general a small tea-spoonful in the middle of the day and at bed-time will be sufficient.

The value of the carbonate of iron as a tonic aperient has not been duly appreciated; I have succeeded in curing with it alone, a practitioner of eminence in this city, who had been long subject to extreme constipation, and had been reduced to the necessity of taking an enormous dose of purgatives almost every week.

When injections carefully administered with Read's syringe fail to remove obstinate constipation, which they will sometimes, though rarely do, other means must be resorted to. Some practitioners are in the habit of giving one dose of active purgatives after another, adding to the strength of each dose in proportion to the obstinacy of the case. This is an imprudent and hazardous mode of proceeding. In such cases the stomach will generally be capable of retaining castor oil; and I prefer giving repeated doses of this medicine to any other when the bowels display such an unusual degree of obstinacy, inasmuch as it may be safely accumulated in the alimentary canal, and will in the end procure evacuations without any of the dangers which attend repeated doses of acrid or drastic substances. I generally commence with two ounces, to be repeated every second hour, until the desired effect is produced. I do not recollect who it was first made the important observation, that in obstinate constipation the first dose of castor oil must be large, but when this has acted on the bowels, the dose may be gradually diminished, provided that the medicine is continued every day for some time, I have verified this in private practice, and lately had a patient in the Meath hospital, whose bowels had resisted injections and the strongest cathartics. Three ounces of castor oil continued for two days in succession, two ounces on the next day, and one ounce on the fourth, were found quite effectual. In some, the daily dose may be thus gradually diminished to a tea-spoonful at bed-time.

When the tendency to constipation is habitual, and the patient is not effectually relieved by the daily use of injections, and when the peculiar circumstances of the complaint render the administration of aperient medicines by the mouth inadmissible, great advantage may be derived from the application of purgative liniments to the abdomen. The one I have found most useful consists of four parts of castor oil, and one part of tincture of jalap. This must be diligently rubbed into the region of the stomach every morning before the patient rises, and it must be done under the bed-clothes, lest the unpleasant odor should sicken the stomach. I am indebted to a medical friend for this suggestion, which I used with success in the case of a young gentleman, whose state had become almost hopeless.

In constipated habits, I have likewise occasionally derived very remarkable benefit from the use of nitric acid given in sufficient doses. It seems, like the carbonate of iron, to possess the advantage of combining tonic with aperient qualities.

In connexion with this subject, I may remark, that long-continued and repeated attacks of constipation, by enlarging the cæcum and colen, lay the foundation of other diseases. This happens most frequently in females, but is not uncommon among males. In such cases the enlargement of the guts may occasion either of two distinct forms of disease, both attributable to the retention and accumulation of hardened fæces. In one form the symptoms are calculated to mislead the medical attendant, by inducing him to believe that his patient is laboring under chronic hepatitis. Pain and tenderness, and in

some, hardness, and even a degree of enlargement, are perceptible in the right hypochondrium, while the patient's aspect is bilious, and he not unfrequently complains of pains in the right shoulder. At times he is subject to violent fits of colic, or to what he compares to cramp in the stomach, particularly after the bowels have been confined, after eating vegetables calculated to degenerate flatulence, or after exposure to cold.

In the other form, the general health suffers less; the pain and other local symptoms referred to the right hypochondrium are not complained of, but the patient is occasionally subject, particularly on exposure to the action of the causes before enumerated, to violent attacks of vomiting and pain in the belly, which are accompanied by the characteristic symptoms of intestinal obstruction. The circumstance that the immediate attack was apparently induced by some palpable and known cause, such as an error in diet, or exposure to cold, may here deceive the practitioner, and cause him to overlook the fecal accumulation, without whose removal recovery cannot take place. I and two other practitioners were several times deceived in the case of a gentleman, of a robust constitution and great strength of body; and the true cause of the sudden and dangerous colics to which he was subject, was not discovered until he happened to mention, that when a young man, he seldom went to stool more than once a week. This led to the suspicion of an enlarged colon, and ever since the attacks have readily yielded to large injections administered by means of a Read's syringe, without which instrument he now never ventures to travel. The practical point that strictly claims our attention is, that the period of life at which the patient becomes subject to these attacks, is often long subsequent to the cessation or diminution of the habit of constipation, and consequently the physician will not perceive the true cause of the complaint unless he questions the patient very accurately.—*Dublin Journ. of Med. and Chem. Science.*

5. M. Dupuytren *on the Consolidation of Fractures of the Neck of the Femur within the Capsule.*—Sir Astley Cooper says, "that in all cases of transverse fracture of the neck of the femur within the capsule, which he has had occasion to examine, there never was seen an osseous callus." "The dissections which I have made," adds this illustrious surgeon, "have convinced me that the fragments of the fracture of the neck of the femur, when this happens within the capsular ligament, did not ever unite by an osseous callus; the re-union was made by a ligamentous substance only, as in fracture of the patella." Persuaded that the consolidation of the neck of the femur is impossible, Sir Astley has made experiments on living animals, which have confirmed him in his opinion. The English surgeons have equally adopted the opinion of their co-patriot. Baron Dupuytren, on the contrary, is of opinion that this consolidation may take place. A considerable quantity of anatomical pieces, he says, "representing intracapsular fractures of the femur, well consolidated, are to be found in the different museums. Those contained in the cabinet of the faculty

of Paris, and of the amphitheatre of the Hotel-Dieu, really prove that this consolidation, with or without deformity, is real. Sir Astley Cooper has probably seen these fractures of the neck of the femur, which had not been cured, or which have been maltreated, or which have been partial. This is the only manner to explain the opinion of the English surgeon, which appears to us to be evidently erroneous. The examination of these pieces of pathological anatomy, is eminently proper to convince us of the reality of the consolidation of this intra-capsular fracture, does not appear, nevertheless, to have produced this effect on other English surgeons who have visited the museum of our faculty. Mr. Cross is said to have considered with care the pathological pieces preserved in the school of medicine of Paris, and not one among them did appear to him to be of a nature to prove that osseous re-union had ever happened, when the head was completely separated from the capsular ligament, and when it did not communicate with the rest of the body by the round ligament.

"When any one inspects the specimens shown in the Hotel-Dieu, he must be convinced of the consolidation. For myself, I am firmly convinced of it, notwithstanding the contrary opinions of the English surgeons.

"Let us now consider the theoretical and practical reasons in favor and against the possibility of consolidation of intra-capsular fracture of the neck of the femur.

"It is said that the superior fragment contains very few vessels, that it forms a true foreign body in the articulation. This assertion is untrue; The head of the femur receives evidently vessels from the cotyloid cavity by means of the round ligament. These vessels, without being very numerous or very large, can nevertheless suffice for the nutrition of the superior fragment. Again: the synovial membrane surrounds the cartilage, and forming at its base a little *cul-de-sac*, which possesses distinct portions of cellular tissue, and in which will be found a number of vessels. As to the inferior fragment, it receives a great number by the principal nutrient artery of the bone, which enters at its posterior part, and which forms in the whole extent of the bone numerous ramifications which nourish it. Finally, by the arteries which surround it, by those which appear in the dignital cavity of the great trochanter, and by all those which penetrate in the spongy tissue of the bone, and which sometimes run over its surface. The fibrous tissue which envelopes the neck of the femur, contains a great quantity.

"It is therefore evident that the inferior fragment receives many more vessels than the superior one, whose vitality is less active, more languid; and that for effecting the consolidation, the inferior fragment which enjoys a free exercise of all these vital properties, performs almost alone the consolidation; but it is not less true, that the superior fragment contributes to the process. The assertion relative to the absence or paucity of the vessels destined to nourish the fragments, is therefore valueless; the anatomical examination of the parts completely refutes it.

"A cause which has been considered almost insurmountable to the re-union of the fragments of the neck of the femur, is the absence of periosteum about this part of the bone. Here is a grand error; the neck of the femur possesses a periosteum, thin, no doubt, but still apparent, and if not so capable of nourishing as that of other bones, nevertheless it is real. This thinness is a difficulty, and by no means an insurmountable obstacle to consolidation.

"Others have said that the synovia continually bathes the fragments, and renders consolidation impossible. This reason would be good if the same anatomical disposition which is seen in various points of the osseous system prevented in any way the formation of callus. For no one is ignorant that fractures which penetrate into the joints consolidate very well, and the same thing happens to the olecranon and patella; in these places it cannot be contested but the synovia bathes the fragments. Every one admits the consolidation of the olecranon, but some contest that of the patella. I shall relate a fact, which proves this beyond all doubt. A man fell upon both his knees, and fractured his patellæ, one longitudinally and the other traversely; the femur was cured without any deformity; the latter separated for some lines. The man died some years afterwards, when the longitudinal fracture could scarcely be discovered, except by a slight inequality in the ridge of the fracture. The other was all consolidated. These cases prove that fragments, bathed with synovia, may be perfectly consolidated. It is not the presence of synovia that offers an obstacle to that of the neck of the femur. The true cause which impedes, or renders very difficult, the exact and solid consolidation, and above all the great deformity, is the displacement of the fragments, their want of apposition, whether the fracture is within or without the capsular ligament."

6. *Furious Delirium, consequent on the Repercussion of Erysipelas, cured by recalling the Inflammation.*—A man, aged forty-five years, was wounded the 24th November last, in the thigh, by a stabbing instrument, which penetrated four inches, and grazed the femoral artery without injuring it. M. Blandin found him in the following state: face red, pulse 100, head-ache; the edges of the wound red and painful; he was bled and put on low diet; the next day but one his state was very alarming; face red, pulse 130, look wild and stern; complete loss of intellectual faculties, furious delirium, violent movements of the limbs, &c. On interrogating his parents as to what had passed, M. B. learned that the thigh, in the situation of the wound, had become of a purple red some hours after his visit, with great heat and pain, and that they had applied on the part compresses dipped in cold water and vinegar; that under the influence of this treatment, the redness, and even the pain, had completely disappeared; and there remained but a slight yellowness in the part, and finally, that the cerebral symptoms came on suddenly afterwards with extreme violence. M. Blandin immediately bled him, applied twelve leeches behind the ears, sinapisms to the feet, a purgative injection, and friction, with tartar emetic

ointment to the part which had been the seat of the erysipelas. The fifth day the inflammation returned, and extended over the internal and superior third of the thigh. The cerebral symptoms disappeared, and the patient complained only of head-ache and lassitude. The following days the erysipelas extended, and considerable fever set in; This was combatted by frictions with mercurial ointment, and in eight days the patient was completely recovered.—*Archives Generales.*

7. *Lunar Caustic Blister.*—In the 5th Vol. of the *Transactions of the Medical and Physical Society of Calcutta*, we find an article by J. C. Boswell, Esq. in which the lunar caustic is recommended as a substitute to cantharides for producing vesication. Mr. B. has used that remedy in pneumonia, phthisis, rheumatism, dysentary, &c. with, he says, decided utility. The blister is formed by slightly wetting the part, and then slowly drawing the stick of lunar caustic over the surface to be blistered, first longitudinally, and then across. The fluid is discharged by small punctures, in about ten hours after the application of the caustic; and no covering being used throughout, the surface becomes in two or three days sufficiently dry to admit of a second application, in the same place if necessary. Mr. B. has put on more than thirty of these blisters in the course of treating a pulmonary case, making the intervals longer as the cure proceeds.

The advantages which the nitrate of silver, applied as a blister, possesses over cantharides, according Mr. B. appears to be that its action is more immediate, and effect more powerful; it does not affect the urinary organs—requires no dressing, is easy of application, and always available—being so easily carried about.

Mr. Twining, the intelligent secretary of the society has appended to this paper some remarks confirmatory of the statements of Mr. Boswell. He says that he has found the caustic blisters very useful in chronic rheumatism of long duration, affecting the joints, and unattended with pyrexia, and with little or no acute local inflammation.

8. *New Method of operating in Ectropion.* By Dr. Dieffenbach.—The instruments necessary for this operation, are a small straight scalpel, with a narrow one-edged blade, a double-edged curved scalpel, a pair of forceps, and insect needles.

The operation, (we are detailing that for the lower eye-lid,) is commenced by a semilunar cutaneous incision, which is made at some lines distance above the inferior edge of the orbit, directing the instrument from right to left, so that for the right eye, the incision is commenced below the external; for the left, below the internal angle of the eye-lids, supposing that the operation is performed with the right hand. This incision, which must be parallel with the inferior edge of the orbit, should be about two-thirds of the length of the eye-lid, and exactly in the middle. When the incision has extended to the cellular tissue, the skin is to be detached for a certain extent from the tarsus, and the conjunctiva is then to be pierced, and the internal

wound enlarged to the same size as the external. The conjunctiva and the tarsus which adheres to it, are then to be drawn through the external opening, a small portion of the conjunctiva being removed, the lips of the external opening are to be brought together, having between them the conjunctiva and the tarsal cartilage. This is to be effected by the finest insect needles, and threads twisted, as in the operation of hare-lip, after which the ends of the needles are to be bent, and cut close on the threads. The operation is the same for the upper eye-lid.

Cold applications are made use of, and if necessary the antiphlogistic treatment. The needles may be removed between the third and sixth day. The method of operating is explained by plates.—*London Medical and Surgical Journal, August, 1832, from Rust's Magazine.*

9. *Operation of Lithotomy for the Extraction of a Portion of Catheter from the Bladder.*—A stout athletic looking man who had lost one leg at Waterloo was brought into the operating theatre, at St. George's Hospital, in order to have a portion of gum catheter extracted from his bladder, by the ordinary lateral operation of lithotomy.

It appeared from the man's statement, that many years ago he had been in the Hospital under Sir Edward Home, with stricture of the urethra. For eight years after leaving the hospital, he had continued tolerably well, but subsequently to that period, he had been subject to occasional attacks of retention of urine, for which he was in the habit of introducing for himself a gum catheter of moderate dimensions. The catheter last in use was so antique that he had been obliged to cut off the rounded extremity, in consequence of flaws and cracks at the eye. On the 1st of the present month, he had the misfortune to let the instrument slip entirely into the urethra. After some ineffectual attempts to remove it by his own efforts, he went to a medical gentleman in the Vauxhall-road, who seized the catheter with a pair of forceps but could not withdraw it; it broke in the urethra, a large portion remaining in the bladder and vesical end of the canal. The patient describes the piece of catheter as forming a sort of projection in the perineum, and no doubt it might have been cut down on in that situation and extracted, if it could not have been removed by other means. The patient went his way and sought no further advice till the 3rd instant, when he repaired to another surgeon at Camberwell, who seems to have handled him rather roughly. This gentleman, whose incredulity appears to have been fully equal to that of the Lazarites, told the man he was a "bloody rogue," and summoned the new police. This sort of gen'darmerie surgery did not satisfy the patient, who went to another doctor, and another, and ended at last by coming to the hospital where he had formerly received benefit. This was on the 4th inst., but the operation was not performed until the 8th. In the interim he suffered much. He had constant desire to make water; passed little at a time, and that with pain; had violent pain in the right lumbar region, but not in the glans penis; had alkaline urine with deposition of mucus, and as we believe, the

phosphates; and although some narcotics were administered, he spent but a miserable time of it.

On the 8th, as we have stated, the operation was performed by Mr. Brodie. It was the usual lateral operation, but the incisions were rather smaller than are made for the extraction of a calculus. Mr. Brodie employed his beaked knife, and the prostate was divided, the forceps introduced, and the gum-catheter extracted with Mr. Brodie's general precision, facility and despatch. The catheter was moderately curved, five or six inches in length, cracked in several places, and incrusted with a deposition of the phosphate of lime. The patient bore the operation without a murmur, and on the 15th, when we saw him, the wound was nearly healed, and the urine almost natural. Mr. Brodie made some valuable remarks upon the case to the gentlemen assembled to witness the operation. He said that he had never seen a similar accident occur before, although he had seen several instances of other foreign bodies slipping into the bladder, and forming the nucleus of stone. One of these cases was rather curious. A gardener laboring under stricture, conceived the ingenious but unsafe idea of employing the bougies which nature placed in his way. When laboring under more than ordinary difficulty in making water, he introduced a flower-stalk into the urethra and dilated the passage. But flower-stalks are brittle, and unfortunately one broke at last in the urethra, and a portion slipping into the bladder formed the nucleus of a stone which was afterwards removed by operation. Mr. Brodie pointed out the mortar-like incrustation of the catheter which he had just extracted. Now I know, said he, without resorting to any chemical analysis, that this incrustation is the phosphate of lime, because in such cases it always is so. The foreign body in the bladder becomes a source of irritation and inflammation—the inflamed mucous membrane of the bladder secretes mucus—and from that mucus is deposited the phosphate of lime. It is true that if the case went on other depositions would occur. The irritation, which had its primary seat in the bladder, would be propagated to the kidney, to the system. The *secretion of urine* would then become depraved, and the triple phosphate would be formed in the kidney, and this mingling with the phosphate of lime in the bladder, would form the fusible calculus.

Mr. Brodie explained why he had not attempted to remove the catheter by Sir Astley Cooper's urethra forceps, or by a pair of his own, which he shewed, and which exhibits several improvements on the former. He considered that the foreign body had been in the bladder for some time, that it was described as being of considerable size, that he might have failed in its extraction, and would have irritated further a part much irritated already. These and other considerations determined Mr. Brodie to cut into the bladder without any previous attempts with forceps, and the event has confirmed his judgment.—*Medico-Chirurg. Review.*

10. *Native Lithotomists in India.*—The Celsian operation, "by the gripe," would seem to be the rudiment of a scientific and success-

ful lithotomy. In India the native operators employ it, and were we to credit the stories they tell us, with very great success. Our experience, however, is sufficient to prevent our being deluded by such narrations. Mr. King, of Patna, gives an interesting account of a native operator and his operation.—*ib.*

"At Poonerai, a village 3 coss from Patna, resides an Hujam of the name of Chukkun; who says that he has performed the operatien of lithotomy on 35 persons, one only of whom died: in that case the stone was of a very large size, and broke into several pieces; the patient died on the 3d day after the operation. He shews 20 calculi, some of which are of considerable bulk. The instrument he uses is something like a clumsy made pen-knife, and he describes his mode of operating as follows.

The patient being put in a convenient poisture, and held firmly by several persons, an assistant presses the lower part of the abdomen, in the direction of the pelvis. The operator introduces his fore and middle fingers into the rectum, and crooking them so as to obtain a hold of the stone, he brings it towards the perinæum, till it becomes prominent there. He then makes an incision over the stone, (on one side of the raphe, and about an inch from the anus,) and extracts it. The urine passes through the wound for some days and the cure is generally completed in from twelve to twenty days. Chukkun acquired his art from his father, and has now taught his son to perform the operation. As this man keep no register of the cases, his statement may be liable to errors, respecting the number of persons on whom he has operated; and probably a liberal deduction should be made from his account of success, which it is his interest to magnify. In fact, it is almost an invariable custom with native operators, to assert that their operations are attended with certain success; and that cures in their hands are infallible. At the same time we must acknowledge, that they evince much cunning and dexterity in assigning reasons for not operating on unfavorable cases. They operate with a view to *cure*, and would not hazard their reputation for the prospect of alleviating continued suffering, when they did not expect ultimate recovery."

11. *Cases of Phlebitis—Advantages of Free Openings.* Case 1. *—Phlebitis after Venesection—Operation—Recovery.*—Ensign H. æt. 19, resident in India one year, was bled to syncope (lbijss) in the night of Feb. 14, 1827, for dysenteric symptoms. He used the arm much in the night, and the bandage came off. The night of the 15th was very restless, he vomited frequently, had much heat of skin and head-ache, with furred tongue; pulse 120. The arm was painful, but not swelled, there was a little redness round the puncture, and on pressing around it with a sponge, a small quantity of pus and blood was discharged. He had taken since the 14th a scruple of calomel and two of blue pill. *Wound closed with sticking plaster—cold lotion —and purgative medicine.* At 2 P. M. the arm was more painful—skin hot and dry—had vomited—more pus pressed from puncture. In the evening eighteen leeches were applied, and afterwards a com-

press was put on four inches above the puncture. ***Calomel and opium—salines with laudanum and antimony—bath.*** On the 17th the arm was more swollen below the compress. There was little alteration till noon of the 18th, when there was increased heat of skin, the arm was more painful and swollen towards the compress, and more matter was pressed from the wound by drawing the finger down the vein, from the compress to the puncture. At 3 P. M. the vein was swelled up to the shoulder, with great constitutional irritation. The following operation was performed.

"An incision was made with a scalpel through the integuments, and the median basilic vein exposed, a director was then introduced through the puncture, and with a probe pointed bistoury the opening was extended above and below as far as there was any appearance of pus, which was carefully extracted by pressure, and the wound closed in the usual manner. The application of the compress was continued till the 22d in the morning.

About oz ij. or oz.iij. of pus were evacuated, and the wound was dressed with a resinoterebinthinate ointment. In the course of half an hour the constitutional irritation had remarkably subsided, and the countenance, previously extremely anxious, was more composed. The same plan of treatment was persevered in, the patient taking a calomel and opium pill at night, with a diaphoretic opiate and aperients. On the 19th he was ordered quina, arrow-root with wine, and camphor. On the 20 h, he was improving, the arm was dressed and better: it discharged freely. In the evening he was worse, the pulse being much quickened, with pain in the chest. ***Calomel and opium and an anodyne.*** After the increase of heat perspiration occurred, and in point of fact there was a paroxysm of fever, though without any perceptible rigor. Next day he was better, but had a slight cough. We need not pursue the details. On the 24th the arm was well, and some derangement of the hepatic function with a slight cough, was his sole complaint. He soon perfectly recovered.

CASE 2.—***Phlebitis after Venesection—Operation—Recovery.***—John Palmer, private, æt. 24, resident in India two months, was admitted, March 16th, 1827, with acute hepatitis, for which lbij. of blood were taken from the right cephalic vein. The treatment for inflammation of the liver was continued; but on the evening of the 18th, he complained of pain in the arm, which was swollen, and the vein was found inflamed—pulse 100—head-ache. On the next morning he was free from fever, but the arm was as before. A compress and bandage placed on the vein, above the puncture, and the whole arm laid on a soft poultice. In the evening, the arm was more painful and swollen, the inflammation reaching as high as the compress, though no pus appeared at the puncture—pulse 100—head-ache—fever—anxious countenance. ***Calomel c. Pulv. antim. et Op—Baln.*** He passed a feverish night, but next day he was cool, with furred tongue and anxious countenance; a little pus could be pressed from the wound.

"An incision extending from one inch below, to one inch above the puncture, was made into the vein; its coats were found to be much

thickened, its cavity larger than natural (on account of the compress placed on it above), and containing from about two to three drachms of pus. The inflammation does not extend beyond the compress; but a little pus was pressed from a portion of the vein next the hand. The wound was dressed with ungt. resin. flav. with a little oil of turpentine added to it. the arm again placed in a poultice."

He was ordered quinine, and under its exhibition, with occasional purgatives, no further unfavorable symptoms occurred. On the 23d, he is reported as getting rapidly well and in a few days the arm healed.

Case 3.—*Phlebitis after Venesection, fatal—Pus in the deeper Veins.*—T. H. private, æt. 22, in India five months, admitted June 27th, 1827, with feverishness and headache. The median basilic vein was opened, but, not bleeding freely, the cephalic in the same arm was cut, and lbj. of blood extracted, with relief. He was leeched thrice, and appeared to be doing well, till the morning of the 30th, when the arm was painful; both punctures were inflamed, but the inflammation appeared to extend up the cephalic vein, and not up the basilic. A pad and bandage were applied about the centre of the arm, and cold lotion used. In the evening the arm was worse, with fever. The cephalic vein was laid open as in the former cases, and oz.ij. of pus discharged from it, a little being pressed out of the median basilic, and a little from the puncture in the basilic. The arm was laid in a poultice; the treatment much as in the former cases. On July 1st, he seemed better, a little matter oozed out at the puncture in the median basilic, without apparent inflammation; the gums were tender. On the 3d, we find no pain or inflammation in the arm, the wound suppurating and looking well. Ordered quinine, and wine in arrow-root. On the 5th he had pain across the pit of the stomach, and leeches were applied. In the evening, he had that all but fatal sympton in such cases, severe rigors and fever. The next day he looked ill, his appearance indicated mischief, though the arm showed nothing amiss. The median basilic vein was laid open, and found to have a black appearance. In the evening of 7th, he had another attach of fever; and on the 8th, he said he felt better, "though he did not look so," a very characteristic symptom. He gradually sank, and died at 7, P. M. of the 11th.

On dissection, the veins which had been operated upon, looked healthy, but the deep-seated veins, especially the brachial, were found full of pus. No mention is made of the state of the liver or lungs.

We have analysed these cases, because we think they inculcate an important point of practice, that of laying open freely an inflamed and suppurating vein. The secondary consequences of phlebitis, as of other injuries, are more frequently observed when matter is locked up, or does not freely escape. It is on this account that diffuse inflammation of the cellular membrane, between muscles, is so much more frequently followed by visceral deposites, than diffuse inflammation of the subcutaneous cellular tissue. We do not place much confidence on the employment of pressure by a pad; on the contrary we are tempted to believe that it is injurious, by the mechanical obstruction offered to the circulation of the limb. Every surgeon is aware how much any

ligature, or compression on an inflamed limb, interferes with the natural processes of reparation. We suspect, from the manner in which the foregoing cases are drawn up, that the reporters are not aware of all that has been done in the investigation of the secondary inflammations. Thus in the last case, we are informed, after the occurrence of rigors, that "the arm does not seem to be at all connected with his ill-health, but the disease to be in the liver, in the bowels." No surgeon who had seen many cases of the purulent depots would make such a remark. However, we again beg to draw particular attention to the practice employed in some of these cases, and to advocate most warmly the free opening of inflamed veins, when the surgeon has reason to believe they contain pus, which does not escape with the utmost freedom and facility.—*ib.*

12. *Treatment of Croup.*—[The following is the original statement which we published three years ago on this interesting subject. It first appeared in the London Lancet, and is from the pen of Mr. Surgeon Kemble, of Knowle, in Warwickshire. The success of this gentleman is represented to have been great.]—*Boston Med. and Sur. Journal.*

In this district, the *croup*, from local causes, is unusually prevalent; and it has fallen to my lot, partly from the success of my plan of treatment, to witness more specimens than commonly occur to one person. We have also, at times, abundance of *bastard croup.* It is unnecessary here to dwell upon the symptoms, which, under the name of the former, do, with the ordinary treatment, so often lead to a fatal termination; but there can be no doubt that, if activity of "antiphlogistic practice" and prompt attention only were requisite, the results would be far otherwise than they are reported to be, as there are very few infantile maladies to the rapidity and danger of which the public and the medical profession are more sensibly alive. I have been induced to think that the fatality in croup is mainly attributable to an erroneous pathology, and, consequently, to the misdirection of our attentions in the mode of treatment; and death appears to me to be produced, at least in the generality of instances, not by the systematic violence of the peculiar pellicular inflammation, nor by the often trifling quantity of plastic effusion which attends it, but to be directly owing to the spasm which is obviously present, and operative, at least to a certain extent, in every case. That the actual straitening of the oreal aperture by false membrane is not generally the cause of death, there cannot be much doubt. I have never witnessed an examination after death by croup, where an opening has been left, such as to lead those present to think it adequate to the further prolongation of life; and in the recorded cases of cynanche laryngea in adults, this circumstance is still more forcible, while it is a strong concurrent fact, repeatedly observed, that the fatality in croup is in no wise proportioned to the extent of the tube affected, but rather correspondent to its site; those cases being most grievous, rapid, and fatal, in which the inflammatory process is developed directly upon the apparatus for

contraction. Again, that inflammation in an open passage, lined by mucous membrane, and occasionally so limited as to leave but slight traces after death, should proceed rapidly to a fatal termination, by its effect on the system, is unsupported by analogy, and would be a very remarkable occurrence in the history of disease. I am therefore led to conclude, that the peculiar complex condition which we denominate inflammation, is not, in croup, the principal cause of death.

To preclude the admission of noxious bodies, nature has endowed the entrance of the lungs with a degree of irritability, very exquisite, even in the healthiest state. A morbid increase, or exaltation of the natural irritability, accompanied with afflux (whether cause or consequence), and the symptoms arising from these two states, constitute inflammation. Morbid irritability, occurring in the muscular and musculo-ligamentous tissues, exhibits those phenomena of abnormal and irregular contraction, which we call spasm. Without canvassing their specific nature and difference, or the reciprocal power of each to produce the other in every case, it is evident that spasm is of very frequent occurrence in textures immediately subjacent to an inflamed organ, or associated with it in office. Whenever the mucous lining, or other texture near the extremity of an open passage, is inflamed, the muscles connected with it, and particularly those subservient to its closure, are sure to partake of the spasmodic condition. Inflammation of the urethra, inflammation of the neck of the bladder, and abscess in the vicinity of the rectum, are obvious examples; and the levator, the acceleratores, and the sphincters, are excited to frequent and irregular contractions. The natural and morbid irritability of parts are, I believe, pretty generally, in a direct ratio to each other, exclusive of circumstances of situation.

In the part attacked by the croup, the natural aptitude to contract every moment, for the purposes of self-preservation, is much greater than in the rectum and urethra; the apparatus is more complicated; the function is vital. A brief interruption, in the other cases but of little moment, is here, by the non-expansion of the great pulmonary receptacle, an obstacle to the return from the head; from that cause, an increased portion of the ascending current, unable to penetrate the cranium, is diverted, by the superior laryngeal branches, to the parts before oppressed; and thus the reflected consequence of the contraction of the aperture of the glottis by a spasm, is to aggravate its primary cause—a specific inflammation of the mucous membrane; that secondary effect is productive of still further spasm, and, after repeated paroxysms, each depressing still lower the vital power, harassed by ineffectual cough, distressed for breath, and laboring at the heart, the little subject is destroyed. The immediate cause of death is a condition of the brain, which is inadequate to maintain the organic stimulation requisite for the continuance of those functions which constitute visible life; that state arises from non-oxygenation, the non-performance of which, in the very last act, is perhaps mainly to be referred to the presence of mucus, and in some degree, perhaps, to the peculiar effusion in the larynx and trachea.

From the preceding view it follows, that were it possible, by the maintenance of narcotization, by the free use of antispasmodics, or by their joint co-operation, to effect the removal of spasm, to prevent any vexation but that arising directly from the inflammatory process, its course would be rendered milder, and it would probably re-approach to the nature of the common catarrhal affection, with which it always appears to commence. Time would be gained to establish some control over the local action by the ordinary means; and, for the removal or consolidation of the lymph, nature might be freely trusted to her own resources. A trial of considerable magnitude has convinced me that this view is substantially correct. The supposition of the important influence of spasm, derives confirmation from the success of the practice, which would be otherwise unaccountable. I am of opinion, that all the worst symptoms of the malady are attributable to the *spasm only;* that there is not any thing in the specific nature of the action present, nor in the parts affected (excepting their great readiness to take on spasm), which should *necessarily* produce a very heavy mortality; and I feel satisfied that if, instead of combating inflammation, we resolutely, and from the commencement, address ourselves to subdue spasm, the termination of the great majority of the cases of croup will be far other than it has been. At all events, I can state distinctly, that in my hands the subjoined plan has been so remarkably fortunate, that I have scarcely seen a fatal case since it has been adopted; and it has been equally successful in the hands of other persons at a distance, who have been apprised of these facts. It possesses the rare advantage of making *no inroads upon the patients strength;* for I have frequently seen a child play, and, to all appearance, as well as ever, *on the third day*, after having had all the symptoms of true croup. And it may well be demanded, Of how few children could that be said, if they were merely subjected to the ordinary treatment *without any malady*? Bleeding "freely" with leeches, and perhaps from the arm, blistering the surface of the neck, applying caustic to the fauces, drastic purging, calomel by cart-loads, and antimony "*usque ad nauseam*," are quite enough to exhaust the life of an irritable and delicate infant. I never bleed or blister a child in croup; I have never thought it requisite to do so, since I have adopted the plan alluded to, although such an auxiliary practice would be in no other respect incompatible, than as tending to invalidate the general strength. The treatment I allude to consists in confining the child to a uniform and rather warm temperature, giving an emetic of ipecacuanha, and, in an hour after, commencing the following mixture:—

℞. Rad. Valerian. Pulv. ʒij.
Oxymel Scillæ ʒi.
Tinct. Opii gtt. xx.
Aq. Distil. ʒi. M.

I administer a teaspoonful every hour, if the child is from two to five years old: if from five to eight, every five-and-forty minutes, so as to maintain the anodyne effect of opium, and the sub-nauseating, expectorant, antispasmodic effects of the squill and valerian, until the

symptoms are removed, which commonly happens in ten or twelve hours, and which I have never seen protracted beyond eight-and-forty. On their subsidence, I have, in general, given a brisk dose of calomel and jalap.

This plan will also be found exceedingly efficient in hooping cough; and I can state, that when it is uncomplicated with tubercular disease, I have found my method more certainly and more speedily of use than any of the numerous procedures which are usually recommended.

13. *Croup.—To the Editor of the Boston Medical and Surgical Journal.* Sir,—About thirty years ago, when my attention was first turned particularly to the subject, the croup was justly considered, according to the practice of that day, as one of the most incurable of all acute, febrile diseases. Probably not more than one patient in six recovered from the complaint. At the present time, though it is a malady that demands the earliest and closest attention, and consequently is still very dangerous, yet when circumstances are favorable for putting the most approved practice into complete operation, we rarely lose more than one case out of eight or ten. Our dependence is now upon *acrid*, *deobstruent emetics*, *calomel* and *opium*.

When called to a child laboring under croup, I would instantly give from half a scruple to a scruple of calomel, to be immediately followed by an emetic of the following mixture:

℞ Tinct. Sanguinar. Canad.
Syrup. Scill. Marit. āā ʒj.
Decoct. Polygal. Seneg. ʒij.
Pulv. Ipecacuan.
Pulv. Sulph. Zinc. āā ʒij. M.

Half an ounce of this mixture is to be administered *perseveringly*, every five minutes, till *free* vomiting ensues. Instead of the calomel which I previously give, some eminent practitioners add three or four grains of turbeth mineral, as an efficient deobstruent, to the first dose of the acrid emetic mixture. The preparation, also admits of a considerable variation, as respects the proportions of blood-root, squill, and senega.

In ordinary cases, free vomiting always produces speedy, though often only transient, relief. As soon as this occurs, from three to five grains of calomel, combined with three to five minims of laudanum, or a sixth to a fourth of a grain of opium, are administered every hour or every two hours, till the force of the disease yields, or catharsis makes it necessary to lessen the quantity of calomel, or to suspend it altogether. Small doses of opium are necessary, till the recovery is established.

Every time that a paroxysm of difficult respiration and distress returns, the acrid emetic is again repeated, as at first. Indeed, it is generally necessary to repeat the emetic, occasionally, upon any unpleasant symptom supervening, till there is ejected a certain kind of *glairy mucus*, which, from its consistence, falls into the vessel, in a manner somewhat resembling melted lead or melted tin.

It is also well to give regularly, every hour, as much tincture of sanguinaria, or decoction of senega, as can well be borne without vomiting. Unless the disease is broken up by the first emetic, which is sometimes the case, it is indispensable to this method of practice that the patient be kept *uniformly* under the *antirritant* effect of opium.

I have often known mild cases to yield easily to calomel and opium, without any emetic; and they are frequently managed with sanguinaria, in decoction or tincture, or with senega, without calomel. But *opium, given regularly, so that a second dose is taken before the effect of the first is much diminished,* is indispensable in either case, if we would expect to arrive at any thing like certainty in the treatment.

It is perhaps needless to remark, that we avail ourselves, according to circumstances, of the warm or hot bath, fomentations, liniments, sinapisms, epispatics, &c.; in a word, of all the common adjuvants.

The outline of this treatment is to be found in Professor Tully's Essay on Sanguinaria Canadensis (American Medical Recorder, Vol. 13, Jan. 1828). It has been successfully practised by the most eminent physicians in this State, between twenty and thirty years; so that in this section of the country, croup, among the physicians who know how to treat it, is nearly as much divested of its terrors as is the case with the small-pox. We are enabled entirely to dispense with bleeding; and we consider antimonials, in every shape, as among the most doubtful, not to say exceptionable remedies. True, they sometimes succeed; but when they fail, they are apt to be attended with a peculiar irritation, which is generally as unmanageable as the original disease.

In my own practice, I adopted this treatment, in substance, in the year 1810, with very decided success, at a time when the croup was so prevalent that it amounted to a kind of epidemic.

I have but one further remark. In no disease are greater resolution, decision, and firmness, demanded. If the physician has the weakness to be more afraid of his remedies, particularly of opium, than he is of the disease, he can never be expected to treat this malady with success, but will be ever liable to lose a majority of his patients.

Connecticut, February, 1833. SENEX.

14. *Affections of the Head produced by Quinine.*—Quinine was found to produce some remarkable affection of the head, in almost every case in which it was administered at Jubbulpore, in 1829. In one officer it caused transient deafness; in another vertigo; in a third intolerance of light, to such degree that the medical men were alarmed least effusion on the brain should take place. A fourth European was subject for a short time, to much confusion of ideas, and all sorts of chimeras after taking Quinine. A Portuguese was affected with tinnitus aurium, and deafness. In all these cases, the quinine acted favorably on the fever, for which it was administered. In the same note favorable mention is made of the efficacy of Rohena Bark (Swietina Febrifuga) in fever cases; but large doses of that remedy were also found to produce vertigo.—*Calcutta Transactions, Vol. V.*

15. *Spinal Apoplexy, or Extravasation of Blood in the Spinal Canal.*—Case 1.—A child aged 7 days 1st September, 1818, was observed not to suck, and appeared as if he were prevented by something which impeded the motion of his tongue. Through the following day he cried frequently, and still did not suck; in the evening he was seen by Mr. White, who found the jaw clenched by spasm, but by very little force it could be opened. On the third day he was seized with convulsion, which recurred at various intervals, sometimes in the form of tonic spasm of the whole body, and sometimes of violent convulsive agitation. On the fourth the convulsion continued, and he died in the afternoon.

Inspection.—No disease could be detected in the brain. In the spinal canal there was found a long and very firm coagulum of blood lying between the bones and the membranes of the cord on the posterior part, and extending the whole length of the cervical portion.

This is the only case that has occurred to me of this remarkable affection; but, as it appears to be uncommon, and to present some very interesting phenomena, I am induced to add the following examples.

1. A lady aged 40, had headach and pain of the back; after a few days the pain of the back became very acute, and violent convulsion took place, which was fatal, after continuing five or six hours. All was sound in the brain, but extensive extravasation of blood was found in the spinal canal, which was most abundant about the seat of the pain.*

2. A gentleman, aged 61, had just arrived in Paris, from a long journey, when he complained of pain of his back, extending from the cervical vertebræ quite to the sacrum. After a few hours he was seized with paraplegia, and incontinence of urine and fæces; and he died while the physician was talking to him, who had been sent for on the occurrence of the palsy. There was extensive extravasation of blood in the spinal canal, under the membranes of the cord. At the lower part it formed a mass like a bouillie of bullock's blood, in which the substance of the cord could not be distinguished, as far as the third dorsal vertebra; and above this, where the cord was entire, it was of a deep red color, and very soft.†

3. A young lady aged 14, had headach, and pain in the back, with a tendency to sickness on sitting up. At the end of the week there was a sudden and violent aggravation of this pain, followed by general convulsions, which were fatal in five or six hours. The spinal canal was found filled with extravasated blood, in the lumbar region, which had been the seat of the pain. The brain and all the other viscera were sound.‡

4. A miller, in lifting a heavy sack suddenly, lost the use of his lower extremities, and died in fifteen days. Extravasated blood was found, mixed with sanious matter, in the spinal canal. The mem-

* Ollivier *ut supra.*
† M. Gaultier de Claubry.
‡ Chevalier Med. Chir. Trans. vol. iii.

branes were inflamed, and the nerves of the corda equina appeared rotten, as if they had been long macerated in putrid water*

5. A gentleman died of a disease which was considered as apoplectic, but in which he retained his mental faculties to the last. No disease was discovered in the brain, but there was a great quantity of extravasated blood in the spinal canal.†

6. A man received a violent blow on the three inferior lumbar vertebræ, by a log of wood which fell upon him; he died in four hours. Extravasated blood was found in the spinal canal, but the vertebræ were entire, and the cord was healthy.‡

7. A boy aged 14, received a violent jerk of his neck by a cord which was thrown over his head as he was swinging forward in a swing. He felt no bad effect at the time, but, after some time, became inactive and weak in the limbs, with stiffness of the neck, and difficulty in moving his head. Nine months after the accident the weakness of his limbs increased to paraplegia; and soon after he had paralysis of the arms, with retention of urine. He had been a short time in this state when he was seized with violent pain in the spine; he then had difficult and quick breathing, which was first observed during sleep, but afterwards continued while he was awake; and he died after suffering severely from it for two days. His death happened about ten months from the injury, and a few days after the violent attack of pain in the spine. A large quantity of extravasated blood was found in the spinal canal, betwixt the bone and the theca vertebralis. It was partly coagulated and partly fluid, and appeared to have come from the upper part of the canal about the second or third cervical vertebra.§

16. *Destruction of a Portion of the Spinal Cord.*.—A man, whose case is related by Mr. Copeland, had paraplegia, dysuria, obstinacy of the bowels, and a feeling of tightness across his belly, as if a broad band had been bound tightly round it. His health had been declining for more than a year, and the commencement of his complaints was ascribed to having violently sprained his back in lifting a heavy weight. After being confined to bed with perfect paraplegia for three months, he died of gangrene of the nates. On dissection, no disease could be discovered in the vertebræ. Within the last dorsal and first lumbar vertebræ. The spinal cord was entirely wanting for more than two inches. The membranes which there formed an empty bag, were unusually vascular and much thickened.‖ On the other hand, Ollivier found four inches of the cord entirely wanting in a child aged eight years, who died of extreme marasmus, with caries of the vertebræ, but without loss either of sensibility or motion of the limbs. Velpeau has described several cases in which, in connexion

* Chevalier, *ut supra.*
† Du Hamel.
‡ Morgagni. Epis. 54.
§ Howship's Observations in Surgery and Morbid Anatomy.
‖ Copeland on Diseases of the Spine.

with caries of the vertebræ, the cord was completely destroyed for the space of several inches, the patient having died of gradual marasmus without any appearance of paralysis; and in Majendie's Journal, a case is described, in which the cord had become quite liquid, through two-thirds of the dorsal region, and one-third of the cervical. The arms were paralytic without loss of sensibility, but the legs were not affected. Ollivier has also observed in two cases a remarkable wasting or diminution of size of the cord. The one was in an old man without any particular symptoms; the other in an idiot, with permanent contraction and wasting of the limbs.—*Abercrombie on Diseases of the Brain and Spinal Cord.*

17. *Case of Aphonia, treated by Nitras Argenti.*—A young woman had gradually lost her voice, from repeated attacks of catarrh; her general health was quite good. During deglutition, she experinced an uneasiness in the larynx. When she did not make any very strong effort to speak out, her voice resembled a low whisper; but if animated and anxious to exert her speech, a noise, like a succession of shrill whistles, or of the mewings of a kitten was produced. M. Trosseau treated the case by the local application of strong solution of lunar caustic introduced by means of a sponge affixed to a bougie, and gently pressed over the opening of the larynx. The operation was followed by retchings, vomiting, and a cough which nothing could allay. These distressing symptoms abated in about a quarter of an hour, and then the patient assured M. T. that she felt little pain when the caustic was applied; and she expressed her astonishment that already her voice was much stronger, and that she could speak louder than she had been able to do for eight months. She was ordered to gargle her mouth and throat with a solution of alum. The retching and vomiting recurred at intervals till the following day, and the pain of the operation continued for a day or two longer. The patient was, however, unable to drink, and to swallow soup, &c. What is strange is, that although almost immediately after the application of the caustic, the voice was so much improved, at the end of ten days the aphonia was as bad as ever. The remedy was re-applied, but in a still stronger form. A sponge, dipped in a saturated solution of the caustic, was introduced as far as the opening of the larynx, and about ten drops allowed to distil into it. Immediately a violent convulsive cough arose, by which most of it was expelled in the Doctor's face! The pharynx, tongue, and lining membrane of the cheeks were rendered as white as milk. Vomiting and a severe cough came on; fortunately there was but little pain, no fever or constitutional disturbance. Her voice did not receive the speedy amendment, as after the first operation. The cough was very troublesome for twelve days; but the voice appeared to have obtained strength, although it was very hoarse. after the 13th day, she was unable to speak for some minutes in succession, and the aphonia never afterwards returned. The voice at first hoarse and occasionally squeaking, became more and more clear; however, after a long walk, or exposure to cold, or too much talking,

the hoarseness still returns, but not the aphonia.—*Journ. Univers. et Hebdom.*

18. *Case of Rheumatism, treated by the Local Use of the Acetate of Morphia.*—A woman aged 28, had a smart attack of the rheumatism in both knees, the shoulders, and wrists; the pains were constant, and the affected parts were considerably swollen and red. She was freely bled from the arm, without relief—blood sizy. A blister on each knee ordered, and the raw surfaces to be dressed with half a grain of acetate of morphia; for the three subsequent days she was quite free from all pain—the quantity of the morphia increased to three-quarters of a grain. In two days more she had completely recovered.

Case 2. A man, aged 27, was seized with violent pain in both knees, on the 15th March. On the 22d, the joints were blistered, and the morphia applied in the dose of a quarter of a grain. In two days the pains were much relieved. On the 28th, he was pronounced cured.

Case 3. A young man, aged 16, suffered unremitting pains in the knees, wrists, and elbow-joints, which were swollen, red, and very tender on pressure, and incapable of being moved. For three nights he could not sleep, from the severe suffering; pulse full; skin burning hot; he was bled and starved. Next day the pulse was more favorable, but the pains rather worse: a blister to be applied to each knee, and the surfaces to be dressed with a quarter of a grain of the acetate of morphia. This treatment was continued for four days, when the patient made no complaints but from the blistered surfaces.—*ib.*

19. *Case of severe Sciatica cured by Bloodletting.*—A. R. aged 39, had suffered for a month, from excruciating pains in the upper and back part of the right thigh; they shot down on the outer side of the limb to the ankle and foot, and generally ceased with a distressing shaking or trembling of the extremity. These paroxysms returned almost every hour, and were so agonizing as to force the patient to scream out. While they lasted, the whole limb appeared to be affected with a tetanic spasm, the gastroc-nemii muscles being drawn into hard, knotty swellings. During the intermissions, there was a constant, slightly-hot pain along the course of the sciatic nerve. He was largely bled from the arm, and 30 leeches ordered over the sciatic notch, to be followed by opiate poultices. On the following day, the number of paroxysms were reduced by one-half, and the character of the pain changed from cramp and the feeling of burning, which shot like a rocket from the hip to the toes, to that of cold water gliding rapidly under the skin in the same direction; leeches to be re-applied. In two days the pains had quite disappeared; and in order to confirm the cure, the patient was ordered to rub in twenty drops of croton oil on the outside of the thigh; a copious eruption of pustules was produced, and, in six days more, the patient was discharged cured.—*ib.*

20. *Paralysis of the Portio Dura cured by Moxas.* A. M. aged 43. The mouth was much drawn to the right side, and the right commissure pulled considerably upwards, while the left was directed downwards, and inwards, leaving the front teeth exposed; the left cheek was much stretched, and closely applied to the alveolar arches; the left eye-lids closed imperfectly, and thus, part of the cornea was unprotected; the cause of this was chiefly attributable to the upper lid being drawn up by its levator muscle. Considerable conjunctivitis had ensued, but the vision did not seem affected. The food was always involuntarily carried to the right side of the mouth; the saliva and any drink trickled from the left angle of the mouth down his chin; the speech, at first, was not affected, but afterwards he could not pronounce certain words; the sensibility of the parts, and the functions of the taste and smell were perfect. The symptoms had existed for seven days, and no assignable cause could be stated. A moxa was applied over the condyle of the lower maxilla, and good effects were apparent, on the second day, in those parts which are supplied by the the middle or transverse branch of the facial nerve; a second moxa was, therefore, ordered over the angle of the jaw, and speedily the speech became more distinct, the deformity of the mouth less, the food was more easily and steadily retained between the teeth in mastication, and liquids could be better retained. When the patient attempted to pronounce the letter "O," the hiatus of the mouth was decidedly less on the affected side than hitherto; still the motions of the left eyelids were very imperfect, and, therefore, two days after the last moxa, a third was ordered over the course of the ascending twig of the nerve. The effects were most gratifying; for on the same evening, the patient could close the lids quite accurately, the ophthalmia disappeared, and in 17 days the patient was discharged well.

Reflections. This case shews satisfactorily that such affections of the facial nerve are frequently local, and not at all connected with the cerebral disease. The occurrence of the paralysis successively in the different branches of the nerve, and the effects of the treatment, first on one of these branches, and then on the other two, are very interesting, and confirm the opinion just stated. The propulsion of the food between the teeth and cheek of the right, or healthy side, causing it to be distended, and requiring the finger to bring the mouthful between the teeth, is rather contradictory to what is usually observed.—*Journ. Univers. et Hebdom.*

21. *Vitreous Humor Regenerated.*—A sergeant in the Garde Royale, received an injury on the left eye which burst the globe, and expelled the crystalline, vitreous, and aqueous humors. The palpebræ were ecchymosed; the conjunctiva red and bloated; and the lower part of the cornea was separated from its attachment to the sclerotic by an irregular cut, through which a portion of the iris protruded. The parts were washed, the iris carefully returned, the edges of the cornea approximated, the eyelids closed, and blood was drawn from

the temporal artery. Ice to the head, sinapisms to the feet, constant darkness, and a vigorous diet were enjoined. During the night he was bled again, and next day cupping glasses were applied between the shoulders. It was supposed that vision would be forever lost, but *a notre tres grande et agreeable surprise*, the globe gradually refilled; on the 22d day, the cornea began to assume a healing aspect, and in about six weeks it was perfectly cicatrized. The natural form, and almost the ordinary volume of the organ were restored, and by the aid of a very convex glass, this soldier came to see objects distinctly, and continues to discharge all the duties of his office.—*Larrey's Clinique Chirurgicale—Glasg. Journ. Feb.* 1832.

22. *Cases of Vesico-Vaginal and Recto-Vaginal Fistula cured.*—Two cases of this dreadful deformity, in which operations were crowned with success, have been lately published. Such cases are always valuable, because they encourage surgeons to persevere in attempts at removing loathsome and almost unmanageable ills, when they might be utterly disheartened by failures by far too numerous.

Case 1.* Mrs. R. æt. 22, had labored under vesico-vaginal fistula since her first confinement, which had been protracted and severe; the finger passed readily through the fistula into the bladder, and for eight months many plans had been tried without success. M. Malagodi operated in the following manner.

Having placed the patient as if for lithotomy, he introduced the fore-finger of the right hand, covered with the finger of a glove, into the fistulous opening, and bending it, drew down the left border of the fistula to the orifice of the vagina; and then, with the other hand, he pared off the edges with a straight bistoury. The hand was changed, and the same operation repeated on the right border of the fistula. The pared edges were then brought in contact. To do this M. Malagodi re-introduced the right index finger into the opening, and brought down its left border, and with the left hand passed a small curved needle, fastened with a ligature, through it, near the posterior angle of the wound. A second and third needle were passed in the same manner, at equal distance from each other, and the opposite border was transfixed in the same manner, when the ligatures were tied, and the sides of the opening thus kept together. The patient was placed on her back in bed, a catheter kept in the bladder, and the urine allowed to flow constantly through it. Until the morning of the third day the water was passed through the catheter only, but then it began to escape by the wound into the vagina. On the fourth day it was found that the two posterior sutures remained firm; and on withdrawing them the union of the sides of the fistula was complete. The anterior ligature, on the other hand, had torn the left border of the wound, and nearly a third of the original fistula thus remained unhealed. The edges of this were regularly touched with the nitrate of silver, the

* Racoglitor Medico. Glasgow Journal, Feb.

catheter being kept constantly in the bladder. This plan was completely successful at the end of a few weeks.

Case 2* Isabella Pigot, æt. 28, was admitted into the London Hospital, Dec. 2, 1830, with vesico-vaginal fistula. The opening between the vagina and neck of the bladder was sufficiently large to admit the point of a fore-finger, and seemed to involve a small portion of the commencement of the urethra; it was oval, its long diameter lying transversely and about 1 3-4 inches from the orifice of the meatus urinarius. The flow of urine was constant, but the retentive power of the bladder was not wholly destroyed. The edges of the aperture were callous to only a slight extent. She stated that four months previouly she had been delivered of a still-born child after a protracted labor, in which the bladder had not been relieved. Her recovery was speedy, but since her confinement she had been unable to retain her urine.

On the 28th Dec. Mr. Luke proceeded to perform the following operation. The patient being placed as for lithotomy, a female catheter was introduced into the bladder through the meatus urinarius. Weiss's two-branched dilator of the female urethra was then passed per vaginam, and fully opened, by which the fistulous orifice was exposed. Attempts were made to pass tenacula through the orifice, but they were found too little curved, and two hooks were therefore employed, Their points were introduced about an eighth of an inch from the internal side of the opening, and brought out at the same distance on the external, when the sides were next pared by two semi-elliptical incisions made transversely in the vagina; to make the internal it was necessary to use a scalpel with one-half the blade bent at a right angle with the other. There was now some difficulty experienced in pressing the ligatures for closing the wound. Small curved needles held in a porte-aiguille would not answer. Mr. L. succeeded with larger ones less curved, passing one on each side of the urethra at a little distance from the edge of the wound; the ligatures when tightened perfectly closed the orifice. The dilator was withdrawn, and an elastic catheter secured in the urethra; the patient was then sent to bed, and ordered to lie on her face, and allow the urine to drain on a cloth.

No water passed by the wound till the 1st January, when the ligatures were found to have ulcerated from one side, and the edges of the wound to be so separated as to allow the escape of the whole of the urine. On the 3d the opening was larger than before the operation; the ligatures were removed, the catheter allowed to remain. 6th. Elastic catheter being stopped up was withdrawn. Another ligature was passed in the centre of the opening including more substance than before; the silver flat catheter was fastened in and the patient placed on her face. On the 11th the ligatures having produced ulceration were removed, but the wound still adhered; a clean catheter was introduced. 15th. catheter has become stopped; wound re-opened, and nearly of former size.

* Med. Gazette.

March 19th. Mr. L. pared the edges of the opening by carrying a single hook through the sides and excising them with a common scalpel; a single ligature kept them in contact. The patient was placed on her face and a catheter introduced as before. On the 26th, the ligature having produced ulceration, was removed; the sides of the opening were adherent, and all the urine flowed by the catheter, which was allowed to remain. On the 9th April the catheter was removed; the fistulous opening was perfectly closed. A stillicidium urinæ remained for a short time, but as the parts regained their tone it subsided. On the 25th she was discharged cured.

Case 3.* An Irish woman, æt. 30, was admitted into the London Hospital on the 24th May, under the care of Mr. Scott. A fistulous communication was found to exist between the rectum and vagina, and the fæces escaped through it into the latter. Her first labor had occurred about ten weeks previously, and during a severe pain whilst the child's head was in the vagina, the attending midwife passed the hand into the vagina, at which time the patient felt something give way.

The bowels having previously been freely opened Mr. Scott operated on the 13th June. He commenced by pulling down the vagina with a double hook, then pared off the cartilaginous edges with a probe-pointed bistoury, brought the raw edges together, and retained them in contact by means of three sutures. She was strictly confined to slops that the parts might not be disturbed by the occurrence of motions. During the night she passed her urine thrice and rested well. On the following night she was very unwell and fainted twice. On the 17th she was ordered some castor oil by the dresser, which was followed by a motion and the passage of a part of the fæces by the vagina. On the 26th Mr. Scott made an examination of the parts. The edges of the opening had united throughout nearly their whole extent, a small ununited portion only being left through which some feculent matter passes when she has a motion. This is the last report, and consequently the result of the operation is not yet determined.

There is one circumstance to be recollected in perusing such cases as the foregoing. The recto-vaginal, or vesico-vaginal fistula is usually the consequence of labor, and although a temporary cure be obtained by operations, the patients are liable to future pregnancies. We must not then consider the case as concluded when the female leaves the hospital cured. Future inquiries should determine whether that cure is permanent. Unfortunately such inquiries are too often neglected, or even when made, the issue, if unfortunate, is not published so eagerly as the former seeming success.—*Medico-Chir. Review.*

23. *Tic Douloureux of a Stump said to be cured by the removal of a portion of the Median Nerve.*†—There is one disadvantage attending hospital reports as at present managed. The reporter, whoever he

*Lancet, July 21, 1832.
†Medical Gazette, July 13, 1832.

may be, is usually in such a hurry to open his budget, that he will not stop to learn the issue of a case before he gazettes it as a cure. The consequence is that patients have been dead or dying, at the very period when the success of the treatment employed has been going the rounds of the medical journals. If the result is afterwards made known it is done so in parenthesis, and escapes many who read the former statement. We do not say the case we are about to notice is an example of this fault, and yet we suspect that the narrator is scarcely justified in setting it down at present as an instance of cure from a particular operation. We had false facts enough in medicine, before the modern system of hospital reporting opened a fresh vein of the poisonous ore.

Case. Eliza Burkett, æt 20, was admitted into the London Hospital, April 21, under the care of Mr. Luke.

"She stated that about three years and a half since, she was taken into St. Thomas's Hospital in consequence of severe injury to the left hand, occasioned by a fall. Every attempt to save it having been made, after two years, amputation became necessary, on account of her general health suffering considerably from the excessive suppuration and painful sensations in the arm; the stump did not heal favorably; she suffered distressing agony, and her health again became affected. She was discharged from the hospital, and afterwards admitted into cripplegate workhouse, under the care of Mr. Langstaff. At that time the surface of the stump presented an unfavorable appearance; the skin covering the ends of the radius and ulna was very thin, excessively vascular, and the ends of these bones seemed likely to cause its absorption. There was also a constant state of convulsive action of the muscles of the stump, accompanied with agonizing pain. Poulticing, opiate lotions, belladonna, and gentle pressure by bandage, were employed to lessen her sufferings, but without any good effect.

Mr. Langstaff afterwards performed amputation above the elbow-joint by the flap operation; and previously to securing the arteries he drew out each nerve to the extent of half an inch from the surface of the stump with a tenaculum, and cut through them to prevent their interrupting the process of cicatrization of the integumental parts. For some time she was relieved of all the painful sensations she had so long been distressed with; had no recurrence of hysteria or convulsion, and her health improved.

About two months after the last operation she applied at this hospital, complaining of severe pain in the stump, the extremity of which was inflamed and affected with spasmodic twitchings; she was constantly subject to headache, and was unable to obtain rest night or day; altogether her life was rendered so miserable that if relief could be procured, she was willing to undergo amputation at the shoulder-joint. The carbonate of iron, iodine, acetate of morphia, blisters in the axilla, leeches to the extremity of the stump, cupping at the nape of the neck, and various other remedies were employed, but without any

beneficial effect, except the cupping, which partly relieved the pain in the head. She continued her attendance as an out-patient for about four months, subsequently to which an exfoliation of bone took place, and she applied at St. Bartholomew's Hospital, where Mr. Earle cut down upon the extremity of the stump. She returned to this hospital without any diminution of her sufferings; and after attending a short time, Mr. Luke having ascertained that the pain proceeded from that part of the stump where the median nerve appeared to terminate, proposed to remove a portion of the nerve, to which operation she consented.

April 21st—Mr. Luke made an incision in the course of the median nerve just below the axilla; and, after a little dissection, exposed and removed nearly half an inch. The woman thought that something was pulled, and complained of a sensation of numbness at the extremity of the stump: she immediately expressed herself entirely relieved from the pain, and could bear firm pressure upon it. In performing the operation, a small artery was divided, which required a ligature."

Some pyrexia succeeded and required saline medicines and venesection. Retention of urine succeeded, and she requires to have her water drawn off twice daily. The last report is dated June 12th, not two months from the performance of the operation, and it states that the wound is healed, that she is entirely free from pain, but that the retention of urine continues.

Now there are two considerations which induce us to think the reporter premature in giving this as a case of cure. In the first place, the period passed without pain, after the amputation performed by Mr. Langstaff, was longer than what has elapsed between the report and the operation on the median nerve, and yet we have seen that the former pause was deceptive, and that the disease returned. In the second place it seems evident to us from several circumstances, that the young woman is of an excitable, nervous, or hysteric habit, and we all know how difficult it is to treat such with success. We do not say that the above was a case of hysteria only, but we do say that there is much of that undefinable state of system mixed up with it, and that probably surgical operations will not put that out. However, be this the fact or be it not, we conceive the reporter hasty in publishing the case as one of cure.—*ib.*

24. *Diffused Hydrocele of the Cord.*—We have lately seen two specimens of hydrocele of the cord, which can hardly be considered examples of that which is usually called encysted. The instances of encysted hydrocele of the cord, which we have seen, have been small, more or less globular in form, and circumscribed. But the swelling in the cases we are about to describe had not these characters.

We were struck with the appearance of the scrotum of a physician's patient in the dead-house of the hospital. There was a swelling, which, at first sight, looked like that of common hydrocele. It was large, and extended from near the ring to near the bottom of the

scrotum—pyriform, with the fundus below—immoveable, fluctuating, and *very* transparent. The testis was at its bottom, and rather to one side, but was firmly attached to the swelling. On dissecting the tumor, the cord was found spread out, its veins, in particular, being scattered irregularly over the sides of the swelling. The cyst was very thin, and occupied the cord from just below the ring to the testis; it appeared to be rather formed from the interstitial cellular tissue of the cord, than from that general cellular envelope or fascia which surrounds it. It was firmly attached below to the epidydimis, the direction of which was nearly horizontal, instead of obliquely from above downwards. The testis was below instead of in front, and its malposition gave it a dislocated appearance; it was healthy, and the cavity of the tunica vaginalis, though large, was free from fluid. The fluid of the cyst was very pellucid.

This may be considered as merely a large encysted hydrocele of the cord. However that may be, it is well for practitioners to know that the ordinary descriptions of encysted hydrocele will not apply to it, and that its characters so nearly resemble those of common hydrocele, as to make it likely to be mistaken for it. The points in which it differs from common hydrocele are, the position of the testis below rather than behind, and its very pellucid appearance between the eye and the light. Such a cyst, it must be recollected, is not strictly a serous membrane, nor so prone to inflammation and obliteration of its cavity by adhesions. It is well known that injections will not cure encysted hydrocele of the cord as they will hydrocele of the vaginal tunic, and it is probably from the operation of this law, that they will not do so. On looking at one of these cysts, we usually observe that it is extremely thin, and possesses but little vascularity; its growth is slow, its inflammation weak. In the encysted hydrocele of the cord, a seton will sometimes effect a cure—incision, and the introduction of lint into the cyst, is more certain. The treatment, which, when applied to the fibro-serous tunica vaginalis, excites very violent inflammation, causes barely sufficient in the pellucid cysts of the cord. It is on this account that we have drawn attention to this form of hydrocele, that practitioners may not deceive themselves and disappoint their patients, from imagining that they have a common hydrocele to deal with, when one of the kind we have been describing presents itself. Surgeons in large practice are probably well acquainted with the subject; but all surgeons are not in large practice, and things familiar to a Cooper or a Brodie are far from familiar to them.—*ib.*

25. *Scrofulous Disease of the Bones.*—Case 1. A young girl had long labored under scrofulous disease of the shoulder joint; it was much swelled, and covered with numerous ash-colored ulcers, from which flowed a profuse discharge—there were several fistulæ running towards the head of the humerus; but the bone could not be detected bare, by the probe. The joint was anchylosed; and the limb quite wasted—diarrhœa and hectic fever had brought the patient to

death's door. The constitutional symptoms were first corrected; and then the use of iodine commenced, externally in the form of baths thrice a week; and the shoulder was daily rubbed with an ointment of ioduret of lead. As the patient bore the use of the iodine well, its inward use was now employed, and two ounces of the mineral iodated water given, the dose being gradually increased to eight and twelve ounces. The fistulæ were injected with a solution of iodine. The beneficial effects were speedily obvious; the joint was much reduced in volume, and the suppuration diminished in quantity. After the iodine had been taken for nearly two months, its use was suspended for three weeks, and diluents and aperients administered, with the view of counteracting any pernicious effects which the drug might have on the stomach, or on the general health; but again resumed and continued for six to eight weeks. In this way the medicine may be exhibited for a great length of time without any danger, especially if the preparation given is the solution of the hydriotate of ioduretted potass (a grain and a half of iodine, and three grains of hydriodate of potass in the course of the day.)

This patient obtained the cure of all the sores, and the state of the joint, though necessarily remaining anchylosed, was vastly improved.

Case 2. A child aged seven presented the left shoulder much puffed and enlarged; numerous fistulæ opened over the head of the bone, which was certainly much enlarged in size; the limb was quite atrophied—the motions of the joint were almost entirely lost—he had cough, diarrhœa, and evening fever. Mild nourishing food was ordered; the mineral iodated water given inwardly, and the shoulder rubbed with the ointment of ioduret of lead. In a fortnight the child was much improved; and to the above treatment was now conjoined frequent bathing in a river. The fistulæ were injected with a lixivial wash. At the end of three months, the movements of the joint had become much more free; the shoulder was very little swelled, and the limb had acquired flesh and strength. The iodine had been omitted at two periods, during which diluents and an occasional aperient were administered. The good effects were well marked in this case; the disease had not existed sufficiently long to expect a spontaneous cure; many anti-scrophulous remedies had been previously tried, and had all failed; but the iodine treatment had not been continued above a week or two, till the little patient shewed signs of improvement. These two cases are illustrative of strumous enlargement of the osseous texture. We shall now say a few words on the subject of caries. This morbid state most commonly attacks the small bones, as the phalanges of the toes and fingers, the metacarpal and metatarsal bones, and those of the tarsus and carpus. It is not rare in the vertebræ, or even in the sternum, ribs, and other long bones. Sometimes, but not always, it is preceded by swelling of the periosteum, or the bony structure itself. A dull, deep-seated pain without any appreciable cause, or it may be, supervening after a lapse of time to a contusion, is the earliest symptom; to this is soon added a general tumefaction, and agglutination of

the surrounding soft parts. An abscess at length is formed and discharges a thin greyish matter mixed with albuminous flocculi, and sometimes with portions of bone. The probe will often detect the roughness of the exposed bone; and in a few cases will penetrate into the cavity of a joint; the existence of such a fistula may be also inferred from the admixture of synovial fluid with the discharge. M. Baudelocque, the author of this memoir, states that he has exhibited iodine in upwards of 30 cases of scrophulous caries of the bones; but seldom with any decided success, amounting to a cure. Its action, however, was very obviously as beneficial to a certain extent in these, as in any other examples of strumous disease; but since morbid changes in bones are more slowly formed, and more slowly advance, than in softer textures, so the cure must necessarily be more tedious and protracted. A period of six months, and upwards, will be generally found necessary; and it is seldom that we can have patients, especially in public institutions of charity, submitted to treatment for such a length of time.—*Revue Medicale.*

26. *Puerperal Peritonitis, followed by Ascites and Spontaneous Perforation of the Abdominal Parieties.*—F. G. agad 30, was delivered April, 1830, of her 7th child. On the second day after her confinement she was much agitated; and the consequence was, that severe pains in the abdomen came on, the lochia were suppressed, and the mammæ became flaccid. The symptoms were alternately relieved and aggravated for eight days; and at this period Dr. Puntons was called in. He found the patient much dispirited and alarmed; belly distended, sonorous, and painful on pressure; distinct fluctuation; suppressed lochia; urine much diminished in quantity, obstinate constipation, severe headache, tongue clean, much thirst, pulse irregular, somewhat hard and very frequent; œdema of the feet and ankles.

Treatment. Emollient fomentations, mercurial frictions on the inside of the thighs, calomel and nitre inwardly. Diet, chicken broth. This plan of treatment was persevered in for a week; the abdominal tenderness had much abated; but the distention had become greater; pulse less hard—a blister ordered to be applied to each thigh. On the 18th day from the commencement of the attack, an opening or slit occurred in the abdominal parieties, about an inch below the umbilicus; the part had been smooth and glistening for a few days before. About a pint of yellowish, inodorous fluid escaped. Two days afterwards a similar vent took place in the upper part of the left hypogastric region, and an ounce or two of a citron colored serum flowed out. Simple dressings applied to the wounds, and firm compresses to the abdomen, in order to promote the expulsion of the fluid. The woman gradually recovered.

Observations. An analogous case is mentioned by Frank. The effused fluid was visible through the navel. The author of the Nosographie Philosophique narrates an example of puerperal peritonitis, in

which a large abscess formed in the left labium; on the 14th day, it broke, and the patient was speedily cured. Van Swieten and Chomal allude to many cases in which the abscesses had found their way into the intestines and caused a purulent diarrhœa.—*ib.*

27. *On large doses of Quinine in Atmospheric Fevers.* By H. Perrine, M. D. (Extracted from a letter to William P. Dewees, M. D.)—Laboring under the symptoms of *cholerine* on the eve of my expected return to Campeche, I cannot depart from this *stage* or *state* without renewing my testimony of the great virtues of the sulphate of quinine. I commenced the practice of medicine in Illinois, in the fall of 1819, contined it in that state until the spring of 1824, and in the state of Mississippi until the spring of 1826, when I embarked at New Orleans on account of my health for Cuba, and thence proceeded through Boston to Canada during the summer. The following winter was passed in this city. In May, 1827, I sailed for Tobasco, in Mexico, where I remained during the rainy season, and arrived at my consulate in Campeche of Yucatan, in November. I returned to Tobasco in July, 1830, and sailed from that port for this city in June, 1831, and in September last was again at Great Sodus bay in this state where I had been a short time in 1826. You will hence perceive that I have had opportunities for medical observation in various degrees of latitude and longitude between the southern shores of our great lakes and the northern base of our Guatemalian mountains.

During the first six years of my practice I used and recommended with gradually increasing boldness, *large doses* of the Peruvian bark, *frequently repeated* during the *paroxysms of fevers.* My communication in your Journal of November, 1826, contains my first essays with *large doses of the sulphate of quinine.* I have since had abundant opportunities of witnessing their effects in the hands of myself, of other physicians, and of *the people.* In 1827, quinine was first known in Tobasco and Yucatan, and was bought by *physicians* at two shillings a *grain.* I introduced its use in large doses, during the febrile paroxysms. In 1831, it was bought by *families* at five dollars an *ounce.* Every person that adopted my practice, has never, I believe, abandoned it. I therefore merely claim common capacity for observation and common veracity for report in submitting very briefly a few general results of my experience:

1. The medium dose of the sulphate of quinine at any period of fever from its incipient to its terminating symptoms is *ten grains* to be repeated every *two hours,* whatever be the state of the pulse and skin.

2. It may be given without interfering with simultaneous antiphlogistic stimulant, or other auxiliary measures according to symptoms, any more than an equal quantity of James' powder. Indeed if the quinine should be slily substituted in the paper, the physician would express his surprise at the immense sudorific and sedative powers of this new pulvis antimonialis.

3. The retreat of fever under the power of quinine as under the ower of nature, is indicated by the changes of the hot or the cold

skin, and of the strong or the feeble pulse towards their natural condition; and most generally by secretion from the skin, often from the kidneys, occasionally from the bowels, and sometimes from *all three in succession.*

4. The *general* disturbance of the nervous and vascular systems, called febrile, whether cold and depression or heat and excitement be the alarming traits, may be counteracted on the first day by at most six doses, or on the second by a dozen; and thus will be prevented that gastro-enteritis,, a *consequence* of endemic or epidemic fever which Broussais has mistaken for the *cause.*

I have hence reason to believe that all malignant fevers, (even if called the *cholera* when their force is attracted to previously disordered bowels,) may be cut short at their commencement by large doses of sulphate of quinine; and that local disorder may at the same time or afterwards be corrected by the same means that were effectual for the same symptoms before the attack.

I am happy to see in Magendie's Formulæ, that large doses of quinine are administered by highly reputable physicians of Europe.

New York, June 26, 1832.

28. *Obituary Notice of Dr. Spurzheim ,from the Funeral Oration of Professor Follen.*—"Gaspar Spurzheim was born on the 31st December, 1775, at Longvich, a village about seven miles from the city of Treves, on the Moselle, in the lower circle of the Rhine, now under the dominion of Prussia. His father was a farmer, and in his religious persuasion, a Lutheran. Young Spurzheim received his classical education at the College of Treves; and was destined by his friends, for the profession of Theology. In consequence of the war between Germany and France, in 1797, the students of that college were dispersed, and Spurzheim went to Vienna. Here he devoted himself to the study of medicine, and became the pupil, and afterward the associate of Dr. Gall, who was at that time established as a physician at Vienna.

"This extraordinary man had been induced, by an observation made by him when a boy of nine years old, to attempt a new mode of scientific investigation. While at school, young Gall felt mortified at seeing himself surpassed by a number of his school-fellows in all those exercises that required verbal memory. The mortified pupil tried to find out some reason to account for this fact, that boys who in their other exercises were much his inferiors, yet showed better heads in committing lessons to memory. He was struck with the observation hat those boys who learned so easily by heart, had remarkably large and prominent eyes. The connexion of this external sign and that mental faculty occurred to him, and he inferred that prominent eyes were a mark of good memory. This observation, insignificant in itself, led Gall to study minutely, on the one hand the prominent talents and individual characters of men, and on the other hand the form of their heads. Little by little he flattered himself that he could perceive one constant shape in the head of every great painter, every great

musician, every great mechanic, severally denoting a decided predisposition in the individual to one or the other of these arts. The study of medicine, and particularly of anatomy, to which he devoted himself, soon induced him to consider the peculiar form of the skull only as the evidence and the effect of that of the brain. This part of the human body, which had always been considered as the principal instrument of the mind, became now the chief object of Gall's investigation; and instead of considering the whole brain, as was formerly the case, as required for each of the different manifestations of the mind, he examined each part with special reference to those prominences of the skull which he had before perceived to be indications of particular talents and dispositions. He considered each of these parts of the brain as the particular organ of each of the different faculties of the mind, in the same manner as the eyes are the organs of sight, and the ears of hearing. Thus, from two sources of observation, from the study of the variety of talent and character, and of the organization of the brain, there arose a new science, the Physiology of the brain, that is, the theory of the different parts of the brain considered as the organs or instruments of the various animal, intellectual and moral capacities.* The physiology of the brain which at first frequently went by the name of Craniology, or the doctrine of the skull, is now more generally known by that of Phrenology, or the doctrine of the mind, by which Spurzheim preferred to designate this new science.

"It was at Vienna, in the year 1800, that Spurzheim first attended a private course which Dr. Gall had repeated from time to time, during the four preceding years, in order to explain to a select audience his new theory of the organs and functions of the brain. The dissections of the brain itself still remained imperfect until 1804, when Spurzheim became his associate, and undertook especially the anatomical department. From that time, in their public as well as private demonstrations of the brain, Spurzheim always made the dissections, and Gall explained them to the audience.

"The great interest which was excited by these lectures at Vienna, and throughout Germany, roused the fears of that inveterate enemy of all innovations, the government of Austria. An imperial decree, which prohibited all private lectures unless by special permission, silenced the two teachers, and induced them, in 1805, to quit Vienna. They travelled together through Germany, explaining and demonstrating their physiological discoveries in the principal universities and cities; particularly in Berlin, Leipzig, Dresden, Halle, Heidelberg and Munich. Their anatomical demonstrations excited every where great interest and applause. The great German anatomist and physiologist, Reil, before whom Gall and Spurzheim dissected a brain in 1805, at Halle, said to Professor Bischoff, who wrote an exposition of their

*Hence the medal that was published at Paris after Gall's death, in 1828 bears the inscription, 'Au createur de la physiologie du cerveau.' (To the author of the physiology of the brain.)

doctrine, 'I have seen in the anatomical demonstrations of the brain, made by Dr. Gall, more than I thought that a man could discover in his whole life.' Their peculiar physiological doctrines on the organization of the brain being adapted to various innate qualities of the mind, found many opposers, but also some warm adherents, and gave rise to a great number of publications in which the subject was discussed.*

"In the year 1807, Gall and Spurzheim went to Paris, where they demonstrated their theory of the brain in the presence of Cuvier, then the chief of the anatomical department of the French Institute, and before many other distinguished men, and learned Societies.

"In Paris, Gall and Spurzheim began to publish their great work on the anatomy and physiology of the nervous system in general, and that of the brain in particular. They also continued their public lectures and demonstrations. They remained and labored together in Paris till the year 1813. In the following year Spurzheim went over to England, and gave his first public lecture in London, in the amphitheatre of Mr. Abernethy. Mr. Abernethy, though he did not give full credit to the evidence brought forward by phrenologists, to prove that special parts of the brain are the organs of certain innate qualities of the mind, fully acknowledged the superiority of Dr. Spurzheim's anatomical demonstrations over every previous mode of dissecting the brain.

"He visited England again in 1825, and was engaged partly in lecturing, and partly in the publication of different books. The first work he had published in England, 'The Physiognomical System,' contained several summary views of different branches of anthropology, which he now endeavored to make more generally appreciated, by extending the principal chapters, and making them separate books. In one of them, *Phrenology*, he treats of the different powers of the mind, and their cerebral organs, in general. A smaller book, *Outlines of Phrenology*, is an abstract of that work. The two principal doctrines of Phrenology, that of the brain, and that of the mind, were carried out in different works.

"In his *Anatomy of the Brain*, he laid down his and Gall's investigations of the brain and the nervous system. On the other hand, the doctrine of the mind, with its practical bearings on religion and morality is carried out in his *Philosophical Principles of Phrenology*. The same principles, in a more condensed and practical form, are set forth in his *Philosophical Catechism of the Natural Laws of Man*. The subject of education, on which he rested all his philanthropic hopes, was treated of in his *Elementary Principles of Education*, a book full of the most important information, and excellent counsel. The deranged functions of the brain is the subject of his interesting work on *Insanity*, for which his frequent visits at the Insane Hospitals

* The first expositions of the doctrines of Gall and Spurzheim were published in Germany between the years 1802 and in 1805, by Froriep and Walter, Bischoff, Knoblauch, Bloede; and in Paris, in 1806, by Demaugeon.

afforded him a great number of important observations. All the works which Dr. Spurzheim edited after his separation from Dr. Gall in the year 1813, show a spirit of free and indefatigable inquiry. The improvement in the anatomy of the brain, was chiefly Spurzheim's work; he also discriminated more minutely between different faculties of the mind which Gall had confounded, and he endeavored to point out their relation to the development of the brain; he moreover brought method and order into the scattered doctrines of Phrenology."

In education he was anxious that the moral and physical cultivation of the pupil should not be sacrificed to the intellectual, and he thought many of our establishments for education deficient in these respects. In his choice of duties, he "always chose for himself in preference, the performance of that duty which required the greatest effort and self-denial;" and he adds, what it gives us much pain to learn, "that his anxious desire to fulfil his engagements in Boston and in Cambridge, was the chief cause of his death. Although oppressed by indisposition and contrary to the entreaties of his medical friends, he continued to lecture; and once in his last sickness, he started up with the intention to dress himself to go to Cambridge." At the close of each lecture, he listened patiently to every inquirer, however humble, and never turned him by, to attend to the great, who were waiting.

He never suffered poverty to exclude any one from his lectures, and when his friends were his almoners in the distribution of free tickets, he wished never to be informed to whom they were given.

His love of truth was supreme; he wished no one to believe any thing on his authority but simply from conviction, after due examination. He was unwilling that phrenology should become an instrument of soothsaying and quackery, and he always refused to designate the characters of living individuals by the application of the rules of his science.

He did not believe, with Dr. Gall, that there was an organ for theft and one for murder, which he thought inconsistent with the benevolence of God.

"All his writings and lectures were marked by the decidedly religious tendency of his mind. He firmly believed in the essential truths of natural and revealed religion. He adopted christianity as a divine system, chiefly on the ground of its great internal evidence, its perfect adaptation to human nature, and the spirit of truth and divine philanthropy which gives life to all its precepts. All morality, he thought, was contained in two precepts—'Thou shalt love the Lord thy God and thy neighbor as thyself.' All prayers, were comprised in this one—'Father, thy will be done.'"

"The great aim of all his inquires was to search out the will of God in the creation of man. Obedience to his laws he considered as the highest wisdom and the most expansive freedom," included in the short sentence, 'Thy will be done.' "We look to him perhaps," he would say, "amid great trials and on great occasions; but not in smaller things. We say, 'they are too little.' It is this, in which we err. Can any thing that concerns his children be too little for a *Father*?"

Through his sickness, however, he was patient and submissive, and distinctly announced his own views of his case in the emphatical words "I must die;" when his friend replied—I hope not—he added "Oh yes, I must die; I wish to live as long as I can, for the good of the science; but I am not afraid of death."

With his hands folded upon his breast, and an uplifted countenance, he died without a groan, on the night of the 11th of November; and although he breathed his last in a land of strangers, he was surrounded by affectionate friends, and by able physicians, emulous of doing something to rescue him from death, or to smooth his downward passage to the grave. He was in the fifty-sixth year of his age.

II. Analytical.

29. Documents relative to the *Medical College of Ohio;* and the *Law regulating the Practice of Physic in Ohio.*

I. *Dr. Drake's Resignation.*

Cincinnati, Jan. 19th, 1832.

To the Honorable Board of Trustees, of the Medical College of Ohio.

Gentlemen:—Last summer, when I suggested and agreed to accept the chair of Clinical Medicine, in the Medical College of Ohio, as the only means in *my* power of effecting the union of the Medical Department of the Miami University, with the College, an object which you had originated and were anxious to accomplish, my chief motive was to prevent the interests of medical education, in Cincinnati, from being seriously injured by a protracted negotiation. At the moment of devising the professorship, I felt an apprehension, that its subjects and limits would be too restricted in the existing condition of the Hospital, to afford me an opportunity of being useful to the class; but I felt and perceived, that a state of things had been produced by others, which left me no alternative, and I accepted the chair, resolving, if my apprehensions should be realixed, to resign it at the end of the first session.

When the chair of the Institutes was declined by the gentleman, (*Dr. Pierson, of New York,*) to whom it was offered, unless he were allowed a year for preparation, and I saw that branch assigned to me, (*for the time being,*) by the unanimous vote of the Faculty, I cherished the hope, that your honorable body would not grant the favor, which he solicited; but, at once, confirm the union of the Institutes with Clinical Medicine, and by reducing the number of chairs from eight to seven, afford me a sufficient amount of duties. You have, however, preferred a different course, and I am, therefore, compelled, to

request you to accept my resignation; which I wish to take effect immediately after the next public commencement.

Thirteen years have this day elapsed, since I had the honor to solicit and obtain from our Legislature, the charter of the college; and to be appointed President and Professor of the Institutes and Practice of Medicine. From that day down to the present anniversary, whether belonging to it, or to other institutions, in different and distant cities, the Medical College of Ohio, has never ceased, nor can it hereafter cease, to be with me an object of the deepest interest. Therefore it is that I send in my resignation before the end of the session, that your honorable body may be able to make and promulgate arrangements for the next course of lectures, before the class shall disperse.

In taking a final leave of an institution, which for many years, has been an object of affection, but to the prosperity of which I can no longer oontribute the influence of my feeble exertions, I cannot forego the opportunity of expressing a hope, that it will continue to flourish, until it shall reach the high distinction and impart the solid advantages anticipated in its foundation.

I have the honor to be, respectfully, your obedient servant,

DAN. DRAKE.

II. *Preamble and Resolutions of the Third District Medical Society.*

At a late meeting of the Third District Medical Society, held in Waynesville, Warren county, the following preamble and resolutions were unanimously adopted:

Whereas, It is believed that the legislative enactments under which we this day assemble, have for their object the improvement of medical science, we deem it not only our privilege, but our duty, to inquire into the causes which retard this improvement, and at the same time to endeavor to extend the means by which it may be elevated to its greatest eminence:

And whereas, Medical Schools, conducted upon liberal principles and with ability, are of the utmost importance to the advancement of this science, we have long cherished an ardent desire to witness the establishment of such an institution in Ohio:

And whereas, Our Legislature has bountifully provided all the pecuniary means for the founding of an institution of the character in contemplation, and the Medical College of Ohio, the recipient of this legislative beneficence, having failed to acquire a high character at home or abroad, we are constrained to ascribe this failure to the narrow policy pursued by its Board of Trustees:

And whereas, A system of partiality and favoritism the most extraordinary and unprecedented, has been practised by those Trustees in the appointment of a gentleman, who frankly acknowledges his incompetence, to the responsible chair of the Institutes and Medical Jurisprudence, (since abolished) for which he asked and obtained one year to qualify himself, and this too to the exclusion of accomplishments

of the first order and celebrity in the United States; and there yet being talents and qualifications of the highest order, in the college, (contrary to the known wishes of the Trustees) which are so burthened by a preponderating mediocrity, that they will, ere long we fear, be compelled to seek a situation, where selfish and disgraceful partiality is not permitted to rule, regardless of the safety of society, the benefits of medical science, the policy, the reputation, and the true interest of our state; we are called upon to deprecate the abuse of power, and contribute something in support of a profession and a science long too much neglected and degraded:

Resolved, Therefore, that as a society, and individually, we will use all honorable means to induce our Legislature, at its next regular session, to so change or extend the Board of Trustees of the Medical College of Ohio, as that it may thereafter be governed upon such principles as shall conciliate confidence and patronage, and promote those high interests, which were labored for in its foundation, and that Drs. Martin, Templeton, Ross, Staunton, and Bell, be a committee to memorialize the Legislature on this subject.

Resolved, That the Trustees of the Medical College of Ohio, have acted unwisely in abolishing the chair of the Institutes, and that that chair ought never to be dispensed with in a well regulated medical school.

Resolved, That the power of appointing and removing Professors ought to be vested in a Board of Regents, who should reside in different parts of the state; and that a part of them should belong to the medical profession.

Resolved, That our professional brethren throughout the State, be invited to co-operate with us, in our efforts to elevate the Character of the Medical College of Ohio.

Resolved, That editors of newspapers throughout the State, be, and they are hereby respectfully solicited to publish these proceedings.

By order of the Society.

J. MARTIN, *President.*
J. S. PERKINS, *Secretary.*

Waynesville, Ohio, May 29, 1832.

III. *Memorial of said Society to the General Assembly.*

TO THE HONORABLE, THE LEGISLATURE OF THE STATE OF OHIO:

Your memorialists, a committee appointed by the Third District Medical Society, to inquire into the condition and promote the improvement of the *Medical College of Ohio*, would respectfully represent to your honorable body—That the Medical College was incorporated by your predecessors at the session of 1818–19, and that the charter has been subsequently amended, and the institution munificently endowed. With the most eligible site in the extended Valley of the Mississippi, and the liberal patronage of the state, the College has not attained that degree of eminence, usefulness, and respectability, which was anticipated by the state, and the medical profession, at its founda-

tion. It has existed for more than twelve years in an unprosperous condition, with small classes of pupils annually, many of whom were beneficiaries; whilst a rival institution, of nearly the same age, in an adjoining state, with an ineligible site, and with less pecuniary patronage from the state, has, by the enlarged and liberal policy of those who govern it, become eminently distinguished as a school of medicine; alluring, annually, to its halls, large classes of pupils. Your memorialists would respectfully suggest to your honorable body, the propriety and urgent necessity of the most vigilant and scrutinizing investigation into the causes of this great disparity between the two institutions.

The languishing condition of the Medical College of Ohio, which had, as your memorialists are informed, but 62 pupils at the close of last month, while that of Kentucky had 218, must be owing to defects both in organization and government. Of the present Board of Trustees but one is a Physician, and consequently they are not the best judges of the talents and qualifications of medical men, as professors. They all, except one, reside in the City of Cincinnati, and seem to look upon the Medical College, as having been instituted for the exclusive use and benefit of that city.

Professors, with but slender qualifications, have been selected for the College, from among the personal friends, family physicians, and relatives of the Trustees, without much regard to the interests of the state, or the science of medicine.

Although recent events have forced upon the Board a few men of distinguished talents and reputation, yet the pertinacity with which they have subsequently adhered to an undistinguished and foreign favorite (even though a year be required for preparation, and an important professorship be abolished) evinces but too palpably their disregard of the true interests of the institution.

With these facts before them, your memorialists feel constrained to ask your honorable body, to re-organize the Medical College; and with due deference, beg leave to suggest to your honorable body, the propriety and expediency of confiding the prerogative of appointing and removing medical Professors in the College, to a Board, selected from different sections of the state, a majority of whom should be physicians, or that your honorable body would so augment the number of Trustees, as to give a preponderating influence to those who reside without the city.

Your memorialists beg leave to refer your honorable body to the subjoined documents, trusting that the College may find in your wisdom, an emancipation from that system of favoritism and bad government which has ever blighted its fairest prospects.

JOSHUA MARTIN,
JOSEPH TEMPLETON,
JOHN ROSS,
JOSEPH STANTON,
WILLIAM BELL, *Committee.*

XENIA, Ohio, Dec. 6, 1832.

IV. *Memorial and Resolutions of the General Medical Society of Ohio.*

At a meeting of the general medical society, of the state of Ohio, held at Columbus, January 9th, 1833, the following report and memorial were ordered to be presented to the General Assembly:

The committee appointed to enquire into "the uses and abuses of the present law, regulating the practice of physic and surgery, also, whether any law is necessary, and if the present law is deficient or injurious, what would be the general features of a law, that would be salutary in its operations," respectfully report, that they have given the subject all the consideration, which the shortness of the time would permit, and submit the following, as a brief exposition of their views on this interesting subject.

The first difficulty that presents itself in the present law, is the great number of tribunals it has created, to judge of the qualifications necessary for the admission of members. This, in itself, is a great evil, as it is impossible, to create twenty separate tribunals, of final and exclusive jurisdiction, that will be nearly alike in their estimate of the attainments necessary for a candidate to possess. These inconveniences were palpably felt from the commencement of the operation of this law, and attempted to be remedied by this society, at its first meeting, as well as the nature of circumstances would permit, by the adoption of their "Uniform rules and regulations for the government of district medical societies. Some of the district societies, however, where the manufacturing of licentiates had become a business of importance, remonstrated at the next meeting. Being unsuccessful in this society they however entrenched themselves, within the battlements of nullification. Protested that the state medical society could exercise no legitimate authority over them, and have acted as they pleased in this matter ever since.

In consequence of this state of affairs we have numerous examples of applicants for a license, being rejected by the censors of one medical district society, and admitted by those of another.

If a medical student is considered that he ought not to be admitted to an examination, either in consequence of moral dereliction, deficiency of time specified by law, or other disqualifications, he has only to make a visit to some other district, when either their sympathy for him as a stranger, or for his ten dollars, is sure to obtain for him, the most respectful attention; seldom indeed, or never, under such circumstances, has their hospitality failed to send the stranger home to his own district, armed with all the paraphanalia of a license, which legally authorises its bearer to practice physic and surgery, *any where in the state of Ohio.*

Thus while the petulence and selfishness of individual societies contravene nearly all the good effects which were contemplated by the law, its operation on the great body of the profession is onerous in the extreme, compelling them all to neglect their professional duties, and attend the meetings of the district society, or pay fines for non attendance, while they may be, and frequently are, taxed for the main-

tainaece of said societies. They must also pay tax for the support of the state medical society. Which taxes, in conjunction with the professional tax, they have to pay the state, in the same manner as attorneys, increases their tax expenditures almost beyond endurance. While the empyric is exempt from all taxation and inconvenience, and liable to no penalty let him sport with life and health ever so wantonly. Nine years of patient observation, and painful experience, have compelled us to think, that the present law ought to be repealed.

As our opinion is required by the resolution under which this report is made, whether any law would be salutary in its operations? We answer in the affirmative, for the following reasons. As nations of the earth emerge from barbarism, and advance in civilization and refinement, as the arts and sciences become generally diffused among mankind, and ignorance and superstition subside, in the same proportion are the health and lives of the community more highly estimated. Those nations of the earth which have excelled in the arts, both of peace and war, have been and still are the foremost by wise Legislative enactments, to protect their people from ignorance, superstition and imposture in the healing art.

Nevertheless, mingled with the most intelligent communities, will be found too many whose grade of intelligence will steadily permit them, to become the dupes of the pretender to medical skill, who conscious of his ignorance, will exert his more available talents of deception, intrigue, and flattery, to ingratiate himself into the good graces of the honest and worthy, but ignorant and unsuspecting citizen—consequently the propriety, indeed the moral necessity, of legislative provision, not for the benefit of the profession, properly so called, but for the protection of the people. In the expression of this opinion we are governed by no sinister motives. Were selfishness our object we would be silent. The medical profession have no common consolidated pecuniary interest, but quite the reverse. Their interests are so insolated and conflicting in relation to professional emoluments and fame, that nothing less than the active benevolence, and deep toned moral feeling for which the enlightened of the profession are every where proverbial, could induce them to be thus frank in the expression of sentiments, so generally opposed by popular prejudices. A law that would really promote the usefulness of the profession, and render general satisfaction, must be simple in its application, and plain in its provisions. One board of examiners for the whole state would be much preferable to a plurality, and provision ought to have been made that these examiners be selected by proper authorities for their moral virtues, professional skill, and scientific attainments. The time of their meeting, their duties and powers, ought to be specified; while the illegal and presumptuous practitioner ought to be made subject to a competent fine of penalty; making it the duty of the grand jury to find a bill, and of the attorney for the commonwealth to prosecute, as in other cases of crime and misdemeanors.

Deeply connected with the true interests of the community, as well as with the dignity of the profession, is the situation and prospects of the Medical College of Ohio. In consequence of the liberality ex-

tended to it by the Legislature, and the growing intelligence of the people of this great state, we confidently hope the time will soon arrive, when no honest young man will presume to take upon himself the awful responsibilities of the medical profession, unless he carries with him the authority of it, or some other respectable medical school. But it is with pain we must confess, that we have seen the professorship of the Institutes of the medicine abolished in that institution. A professorship of the utmost importance in a well regulated medical school and essential to the student when filled by a professor of competent talents.

We would humbly hint to the Legislature, that the cause of humanity and science, would seem to require their most scrutinizing and anxious attention to this College, as the best and most effectual means of directing public opinion on the subject of medical qualifications.

In the mean time if the present law is repealed, a law might be passed regulating the practice of medicine, embracing the provisions heretofore intimated, for the purpose of protecting the community, while at the same time it would confer upon them, all the advantages that could be derived from the labours of such young men, as from pecuniary embarrassments, could not obtain a diploma, but whose talents, acquirements, and industry, would render them safe practitioners and useful members of society.

In conformity with these views, hastily sketched, but we hope not the less true in substance, we would offer for the consideration of the society, the following resolutions:

Resolved, That the present law regulating the practice of physic and surgery has failed to affect the object for which it was designed, and therefore ought to be repealed.

Resolved, That the attention of the Legislature be specially invited to the medical College of Ohio, as the most effectual means of properly directing public opinion in relation to medical qualifications.

MEMORIAL.

To the Honorable the Senate and House of Representatives, in General Assembly convened.

Your memorialists, the Ohio State Medical Society, now convened, would respectfully represent to your honorable body, that for more than ten years, the attention of the medical profession in this state has been fixed upon the medical College of Ohio, with the fond expectation that endowed with the liberal patronage of the state, possessing the most eligible situation to be found in the western country, it would attain a degree of eminence and usefulness, not inferior to any medical school in our country. That the intelligent and enterprizing medical students, of our own state, would here find an institution, where they might attain the highest honors of their profession; and not be compelled to attend the Lectures of Professors of Eastern schools, who must necessarily be in some degree unacquainted with the character of our western diseases, or to attend a neighboring rival institution.

Your memorialists are constrained to declare, that in their opinion the present board of Trustees have acted without due regard to the interests of the institution in abolishing the chair of the institutes, in-

asmuch the institutes of medicine is the very foundation of medical education upon which the whole superstructure depends.

Your memorialists believe that the concerns of the institution have been so managed as to give general dissatisfaction to the profession, and to diminish their confidence in its operations and usefulness; and humbly pray your honorable body, to so change and extend the board of Trustees, as that it may hereafter be governed upon such principles as shall conciliate confidence and patronage, extend its usefulness, and elevate its reputation. And do heartily concur with the memorialists on the same subject, of the third medical district, in suggesting to your honorable body the propriety and expediency of confiding the prerogative of appointing and removing medical professors in the college, to a board of Regents, selected from different sections of the State.

And your memorialists as in duty bound will ever pray, &c.

By order of the Society,

T. FLANNER, *President.*

R. M'NEILL, *Secretary.*

In pursuance of these memorials, the General Assembly repealed the law regulating the practice of physic, and consevuently abolished the District Secioties and the General Medical Society, composed of a representative from each district.

V. Resolution appointing a Board of Commissioners to inquire into the condition of the Medical College of Ohio, and the Commercial Hospital and Lunatic Asylum of Ohio.

"*Resolved by the General Assembly of the State of Ohio*, That the Governor of this State, be, and he is hereby authorized and requested to appoint five citizens of this State (not connected with the institutions herein mentioned,) at least three of whom shall be physicians, to visit, on the second Monday in April next, the Medical College of Ohio at Cincinnati, and to enquire into and examine the present organization, government and condition of said Medical College, and the arrangements of the Trustees of said Institution, for the instructions of pupils and the advancement of Medical Science therein; and also to enquire into the condition, government and arrangements for the attaining the purposes thereof of the Commercial Hospital and Lunatic Asylum, and that they report thereupon to the next General Assembly by the third Monday of December next; with such observations and suggestions in relation to the said institutions, and the proper means of advancing the prosperity and utility of said Medical College as an institution of the State, and of Medical Science therein, and of the said Hospital and Asylum as connected therewith, as they may think proper to make. The persons thus appointed to receive from the Governor's contingent fund or otherwise a reasonable compensation for the time severally employed by them in the service provided by this Resolution, and the said Commissioners shall have power to send for persons and papers and to take testimony under oath.

Resolved further, That so much of the result of the examinations as aforesaid as concerns the public confidence in those institutions, as in the opinions of the aforesaid Committee would be proper to be published, the Committee shall cause to be published in two or more of the newspapers having general circulation in the State."

In obedience to the Resolution, the Governor appointed the following gentlemen as Commissioners:

JOHN W. WILLEY, Esq. of Cuyahoga County.
Dr. JOHN M. EDMISTON, of Franklin.
Dr. M. Z. KREIDER, of Fairfield.
Dr. ROBERT THOMPSON, of Guernsey.
Dr. WILLIAM S. KITTRIDGE, of Huron.

The dissensions prevailing among the Physicians of this city, growing out of the Medical College of Ohio, are well known to the profession throughout the Western Country. These disputes have done any thing rather than advance the respectability of the profession, or the interests of medical science. With a view of putting an end to so unpleasant a state of things, the Legislature has appointed a Board of Commissioners with full power to inquire into the cause of the existing dffiiculties, who will report the result of their investigations to the next General Assembly.

We have published the documents which have led to this investigation in order that the profession in the West may have a full view of the causes of complaint against the present organization of the Medical College. The principal charges against the Board appear to be—1st. A spirit of favoritism, necessarily, perhaps, resulting from the influence which medical men must always exert over the society in which they live, from the nature of the relation in which they stand towards it. 2ndly. A want of qualification from the absence of medical men in the Board.

The remedy proposed is, a Board of Regents, and who shall be, by their locality, beyond the local influence of Cincinnati, embracing a proportionate number of medical men.

One advantage at least, we hope, will result from the investigation: which is, that some permanent arrangement will be made, which, by precluding the prospect of farther change, will put an end to all future dissension.

F.